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THE AMERICAN

# X-RAY JOURNAL

A MONTHLY  
DEVOTED  
TO THE  
PRACTICAL  
APPLICATION  
OF THE  
NEW SCIENCE  
AND TO THE  
PHYSICAL  
IMPROVEMENT  
OF MAN.

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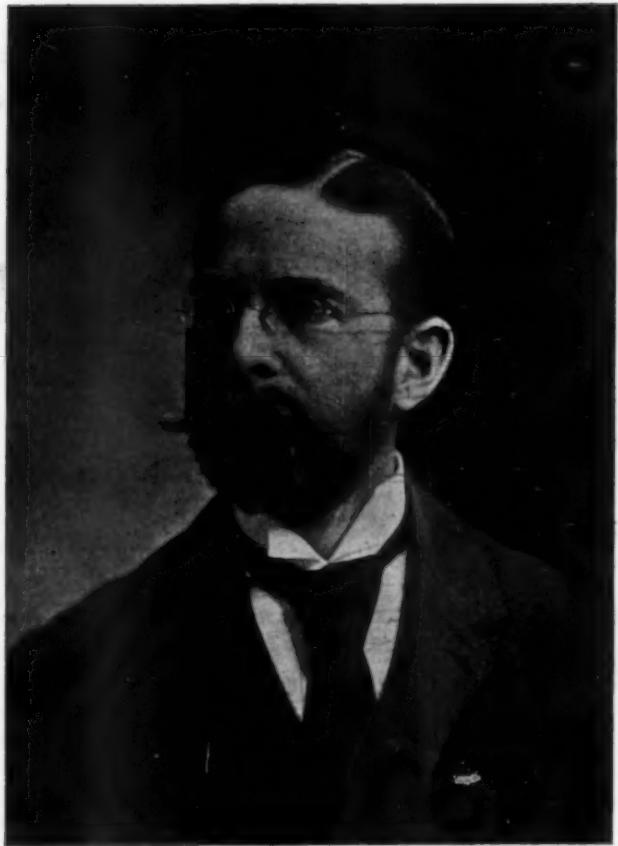
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THE AMERICAN X-RAY JOURNAL.



CHARLES REA DICKSON, M.D.  
296 Sherbourne Street. Toronto, Canada.

# The American X-Ray Journal.

Devoted to Practical X-Ray Work and Allied Arts and Sciences.

VOL. 4.

ST. LOUIS, JUNE, 1899.

NO. 6.

THIS is the Index issue.

STUDY the index and see how much you know about x-radiance.

THE physician is very much polished if he is in possession of useful x-ray information.

DOCTORS doing surgery in the "old way" will be benefitted by reading the observations by Dr. Morehouse published in THE AMERICAN X-RAY JOURNAL for May.

An evidence of the value of THE AMERICAN X-RAY JOURNAL to the general practitioner is noticed in the fact, that not one of the thousands of physicians who read this publication has ever been prosecuted for causing x-ray injuries.

"THE X-RAY" is the title of a paper by G. G. White, M. D., of El Kader, Iowa, read at the sixth annual convention C. M. & St. P. Ry., Surgeons, Chicago. The article reflects credit upon the author and deserves careful reading by all surgeons employed in R. R. practice. The full text can be found in the *Railway Surgeon*, for April.

THE lay press has given the public some smattering knowledge of the x-rays; and since it is a purely medical

question the people have a right to expect intelligent answers to their questions from their family doctor. The intelligent only can answer and it is for this reason that physicians who read THE AMERICAN X-RAY JOURNAL stand first in the community in which they live.

PROF. W. C. FUCHS of Chicago has specialized his "Observations in Radiography" and frankly made concessions in the Electrical World and Engineer that the cause of backing up pictures are unknown to him. He says: "Experiments made by me have shown in many instances that objects back of the plate appear upon the plate, and this is something that it is necessary to avoid. It also opens up a subject for discussion, for it would be interesting to know definitely the cause of this freak, as it might be termed."

If Prof. Fuchs will read, "Further Observations on the Properties of the X-Rays," by W. C. Roentgen, (third communication to the Royal Prussian Academy of Science, Berlin) he will find this simple explanation: "The effect just described might be due to the deflection of rays of very long wave lengths, or to x-rays emitted by bodies in the field of the discharge apparatus, such as the air. The latter explanation is the correct one, as may be readily

shown by the apparatus about to be described."

It is not a "freak" but a universal fact that bodies such as air in the field of the discharge apparatus emit x-rays. If the rays are permitted to diffuse in all directions from the surface of the platinum disc the screen and the sensitized plate must to some degree be influenced by x-rays that have their origin outside of the tube. Prof. W. S. Andrews of Schenectady, N. Y., has devised "Non-Metalic Diaphragm for Radiographic Work," full account of which was printed in THE AMERICAN X-RAY JOURNAL for March, 1899. With this diaphragm all the direct rays are cut off from the body except at the circular hole made for radiographic work. The impervious material used in these diaphragms was first suggested by Dr. Wm. Smith, full account of which was printed in the Dec. issue of this journal for 1898.

To restrict wider diffusion of the rays emanating from the tube Dr. Wm. Rollins, of Boston, Mass., has confined all the rays not deemed necessary for radiographic work. With the observance of these precautions it may be possible to avoid all backing up rays except such as directly pass through the parts intended to picture.

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#### TRANSLATIONS.

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BY FRANK RING, M. D.

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**THE EPILATING PROPERTIES OF THE X-RAYS.**—Following the Electrical Exposition at New York, a gentleman who explained the apparatus and used the cathodic rays, brought an action for \$10,000 damages against the Company. His cause of action was the loss of his hair and beard of the right side of his face. The Company is sought to be held accountable, because they knew,

or should have known, the epilating virtues of the x-rays.

An electro-therapist of California, has drawn a practical lesson from this incident. In California, bearded women are very rare. On the other hand, there are sufficient female moustaches, and even the use of the razor does not make this manly ornament disappear.

Certain of the fair sex have the arms hairy, not like an ourang-outang, (this would be saying too much) but, like a blacksmith. This down is far from contributing to the increase of their graces or their charms. Hence our coquettish sisters would willingly give all the gold of California which is in their possession, to be relieved of this superfluous covering.

A doctor of Los Angeles, after having read in his journal of the misadventure of the New Yorker mentioned, conceived the very practical and productive idea of using the cathodic rays, to relieve the most beautiful half of the human race from their moustaches, and the downy growth from their arms. As the doctor has not taken out a patent, and in order to gain the grateful favor of all French women, I will make known his method of proceeding.

There are certain precautions necessary to preserve the epidermis of our amiable companions; the current must not surpass an intensity of two amperes, and the tension of the volts; the Crookes' tube should be placed at a distance of one foot from the face, naturally gracious, or from the admirable arms of the patient, and finally in order not to try her patience, the application must not last longer than ten minutes. Naturally, one seance will not suffice, but the patient is free to return again, and pay accordingly at San Francisco or Los Angeles, after eighteen seances, the best results are obtained, and the mother-in-law loses her moustache of an an-

gry cat. As to the young ladies, three or four seances are sufficient.—*Revue Internationale d'Elektrik.*

In *Fortschritte auf dem Gebiete der Roentgenstrahler*, Hamburg, Band II, Heft IV., Gassman & Schenkel report progress and improvement in cases of lupus treated by the Roentgen rays, in the University clinic at Bern. They describe the technique as used by them, as follows: Primary current, 30 volts, verging between 3 and 4 amperes. The greatest length of the spark was 45 cm. and the number of interruptions was from 1400 to 1600 per minute. For the protection of the sound skin, a mask of sheet-lead  $\frac{1}{4}$  mm. thick was used. Daily seances of 30 minutes' duration were held at 20 cm. tube distance.

**INSENSITIVENESS TO FRACTURES.**—McLean (in *Medical Age*, Detroit) describes a case of fracture of the astragulus, which was contested by an accident insurance company, which claimed that it was a sprain. The Roentgen rays established the diagnosis, and payment was made. Subsequently, the same patient presented an unrecognized fracture of the ulna, followed in three weeks by fracture of the adjoining radius and the x-rays were again used to make the diagnosis complete.

Prof. Dr. G. Julliard, of the Cantonal Hospital at Geneva, reports the case of a man of 34 years, in perfect health, who was suddenly attacked with complete suppression of urine. Examination by the x-rays gave a clear image of the place, form and volume of a vesical calculus, which upon removal by the hypogastric route, was found to be 25 mm. long, 15 mm. wide, and weighed 4 grammes.

Dr. Jimmelman of Berlin, at the Balneologic Congress, proposed the ques-

tion, "Can one recognize phthisis pulmonalis by means of the x-rays, in cases in which it is not possible to recognize it by the methods heretofore in vogue?" In an exhaustive demonstration of the subject, he claims to prove the affirmative of the proposition.

In *Munchener Med. Wochenschrift*, No. 50, 1898, Alberg submits report of a case of venal stone, in which the diagnosis was made by the aid of the x-rays. A successful operation followed the radiographic indications.

At the "Arzlichen Verein" at Hamburg, on February 7, 1899, Dr. R. Hahn, gave an interesting demonstration illustrating the application of x-rays, to the diagnosis of tertiary syphilitic lesions. Among the lesions made manifest by this means, were gummy tumors in various locations, as well as various bone changes, such as periostitis, osteo-sclerosis and osteo-porosis.

UNIVERSITY OF PENNSYLVANIA,  
THE COLLEGE,  
Philadelphia, May 19, 1899.

To the Editor of THE AMERICAN X-RAY JOURNAL:

In your last issue I read a note entitled, "Styloid Process and Colles' Fracture," in which attention is called to an observation by J. Lynn Thomas, F.R.C.S., that fracture of the styloid process of the ulna is not as rare an occurrence as it was thought to be. He mentions that fracture of the styloid occurred in four out of five cases examined for Colles' fracture. On looking over my collection of radiographs to determine my own experience in the same line, I am surprised to find that it agrees closely with that of Prof. Thomas. I have on hand six cases of Colles' fracture in four of which the styloid process of the ulna is unmistakably fractured also. In one case the process itself is divided into two fragments.

Respectfully,  
ARTHUR W. GOODSPED.

CURRENTS GENERATED BY ROENTGEN RAYS.—In 1897 Perrin succeeded in obtaining differences of potential between two different metals when exposed to x-rays, and even observed a small constant current of about  $10^4$  amperes on joining them by a wire. A. Winkelmann has made further observations on this interesting subject. He placed a Roentgen apparatus in a leaden box with an aluminum window. In front of the window he mounted an aluminum plate, and behind that a copper plate. On working the apparatus and connecting the two through a galvanometer, a small current was indicated, which was increased by reducing the distance between the plates. A battery of plates could be constructed by mounting plates of the two metals alternately one behind the other, taking care, however, that the insulator between them was not, like mica, for instance, impervious to x-rays. The resistance of one such battery was found to be 130 million ohms, and to increase as the battery was moved away from the Roentgen apparatus evidently owing to the lesser degree of ionization of the more distant air. Further, the resistance of the layer of ionized air diminished as the thickness of the layer was diminished, down to a certain minimum. At very small thicknesses the recombination of the ions is so rapid that the current intensity is thereby diminished. The author calculates the proportion of ionized molecules of air in the total number of molecules at  $4.6 \times 10^{-13}$  at least, in a position of maximum conductivity.—Winkelmann, "Wied Ann.," Nov. 9, 1898.

NATURE OF CATHODE AND ROENTGEN RAYS. Walter, *Wied. Ann.*, 66, p. 74; noticed briefly in *Elek. Zeit.*, Nov. 17. *Electrical World, N. Y.*—If cathode rays are moving particles charged with negative electricity, as now generally accepted, then, according to this author,

Roentgen rays are nothing more than the reflected cathode rays which have deposited their charge on the anti-cathode. This explains why x-rays are not deflected by a magnet, as the particles no longer carry an electric charge; that they have a higher penetrating power may be explained by the fact that when the particles carry a charge they are attracted by the body through which they are passing, while particles without a charge pass through them without meeting this opposing force.

CORPUSCULAR THEORY OF ROENTGEN RAYS. Walter. *Wied. Ann.*, No. 9; abstracted in *Lond. Elec.*, Oct. 28. *Electrical World, N. Y.*—He works out a theory similar to that of Vosmaer and Ortt, the truth of which is said to appear obvious and palpable at first sight. He supposes that Roentgen rays are discharged cathode particles; they are therefore not deflected by a magnet; after striking the anti-cathode and discharging themselves they are reflected in a diffused manner and penetrate the walls of the tube. These particles must be much smaller than the electro-chemical ions. That Roentgen rays have a penetrating power is due to their electric neutrality; a copper bullet, for instance, could penetrate a forest of magnets easier than an iron bullet.

CURRENTS PRODUCED BY ROENTGEN RAYS. Winkleman. *Wied. Ann.*, 66, p. 1; abstracted at some length in the *Elek. Zeit.*, Nov. 17.—He shows how a continuous current may be produced from one metal-plate to another, between which Roentgen rays pass.

X-RAY.—An x-ray photograph of a fractured arm is being used as evidence in a damage suit at Henderson, Ky., in which a physician is sued for \$10,000 damages for malpractice—the first time in the history of the court, at that place.

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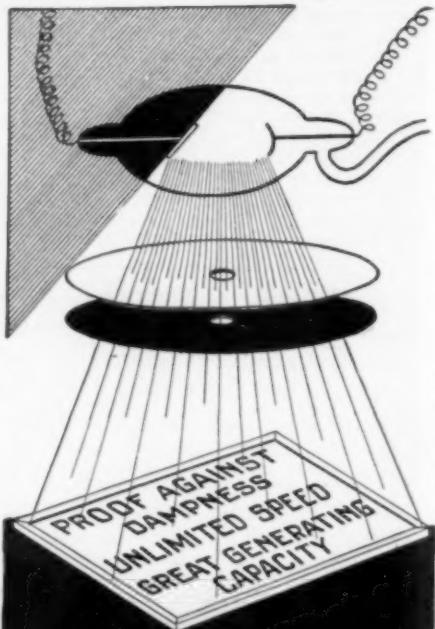
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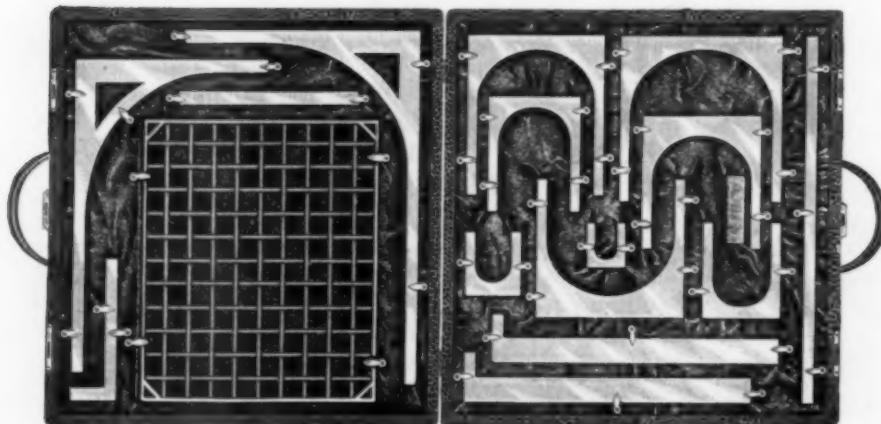
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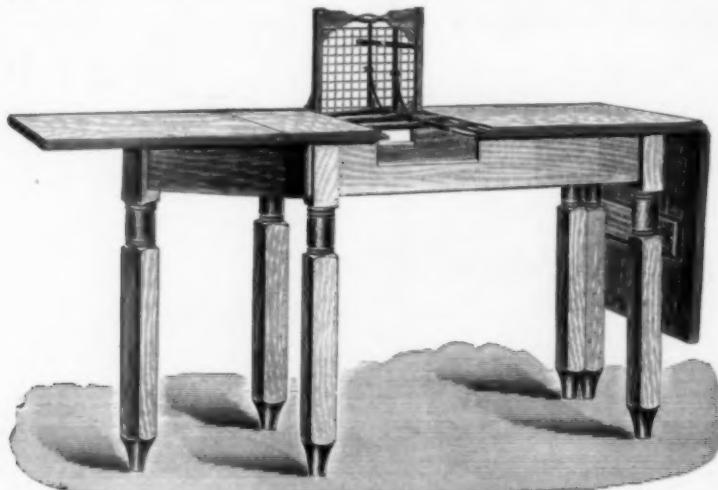
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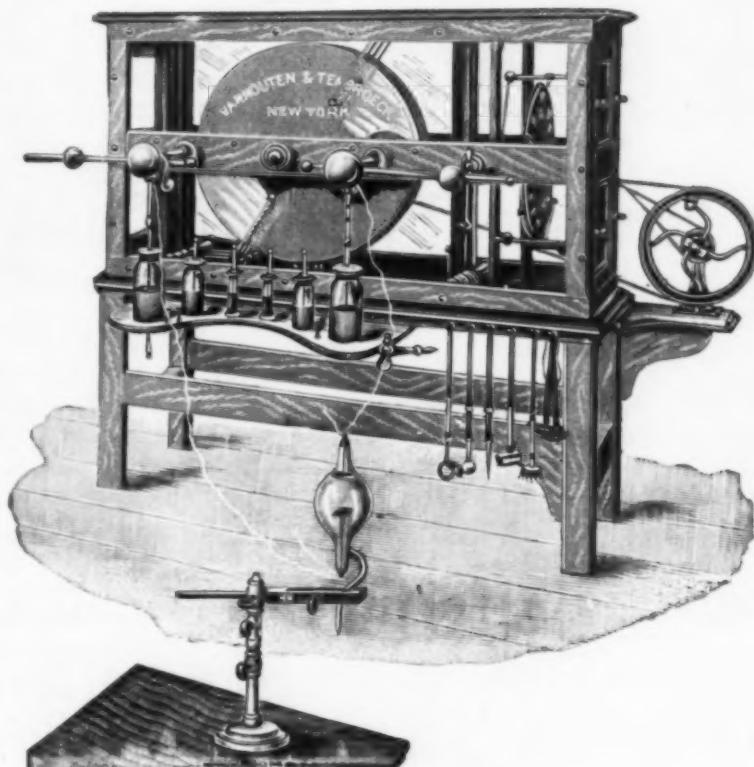
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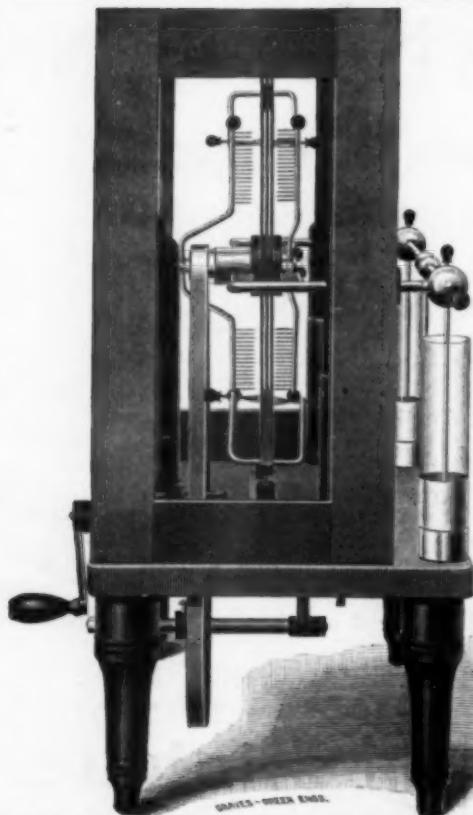
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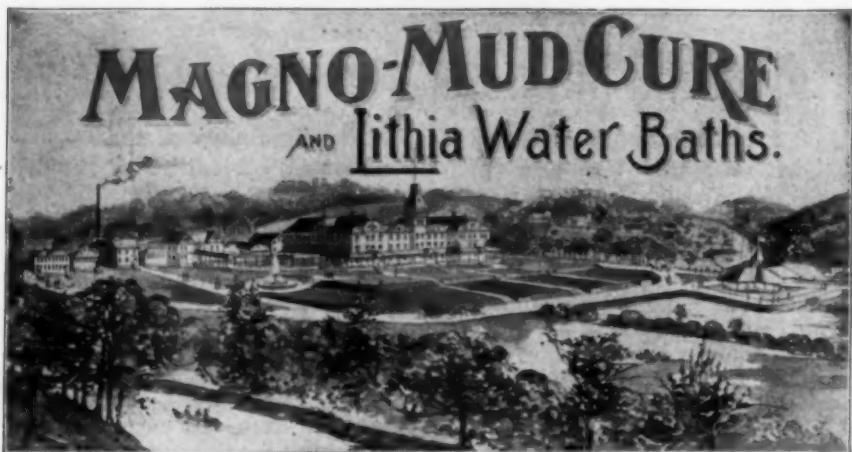
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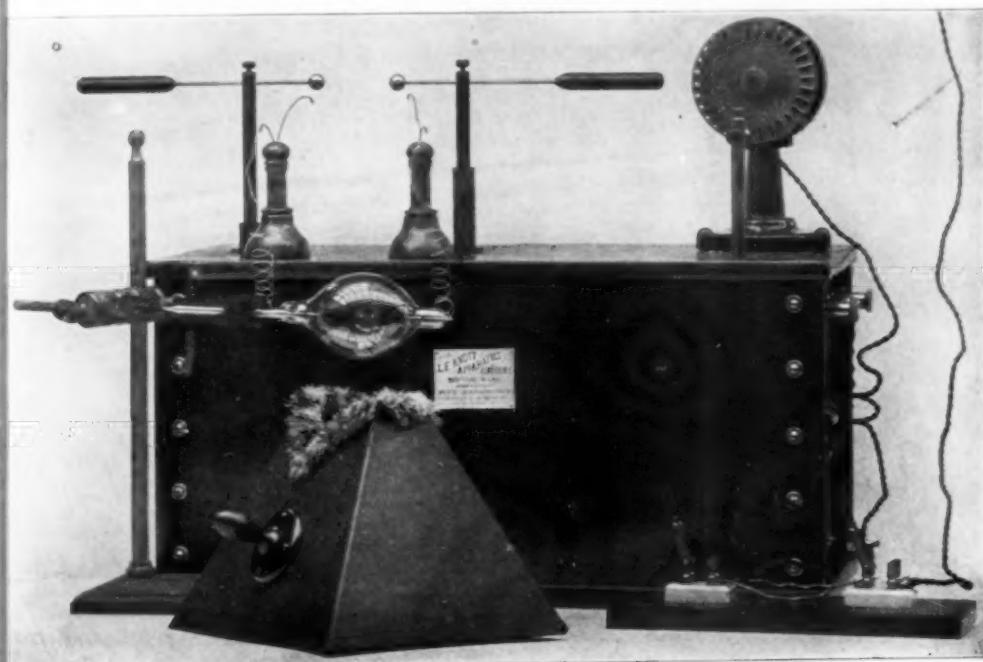
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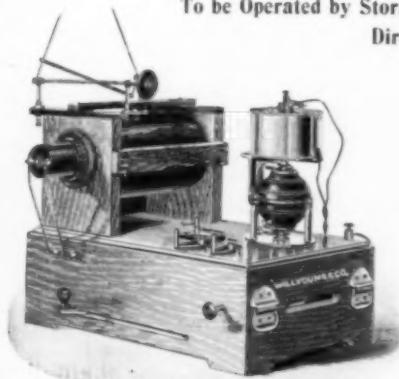
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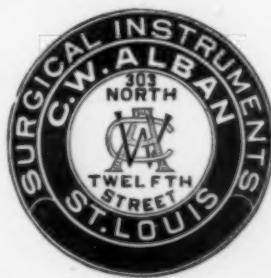
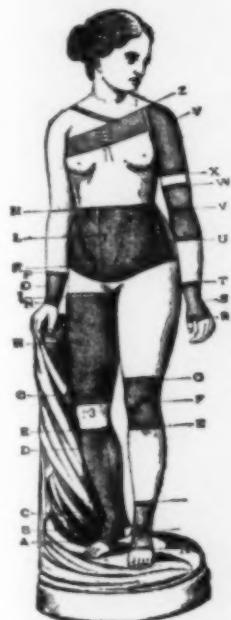
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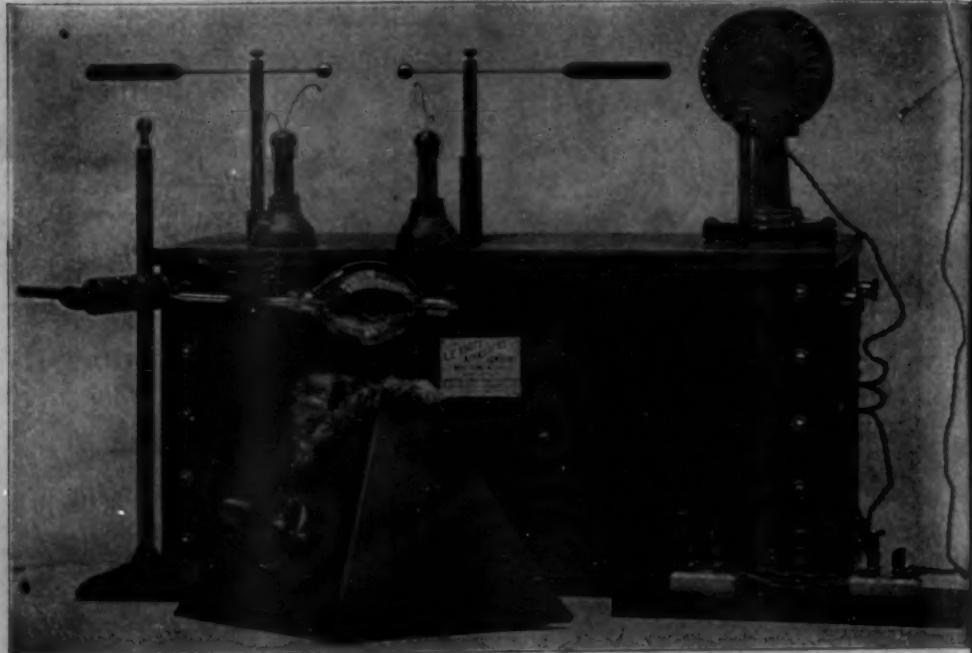
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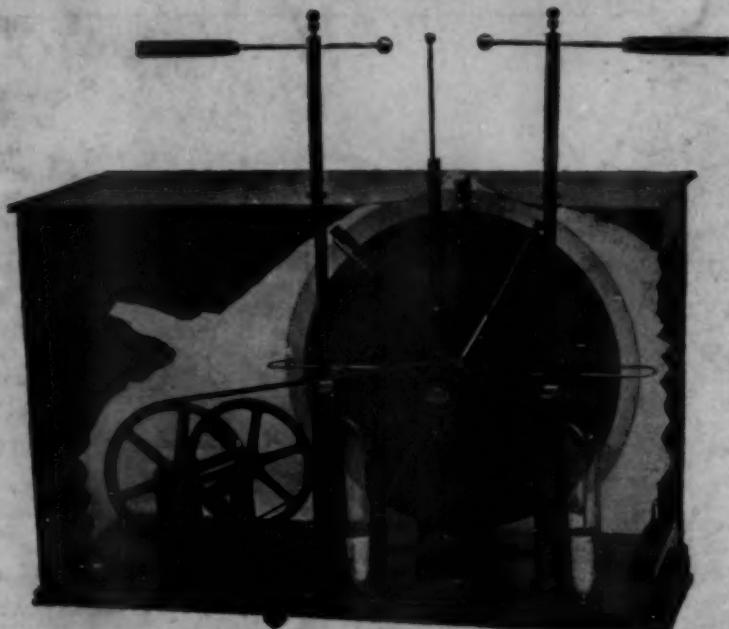
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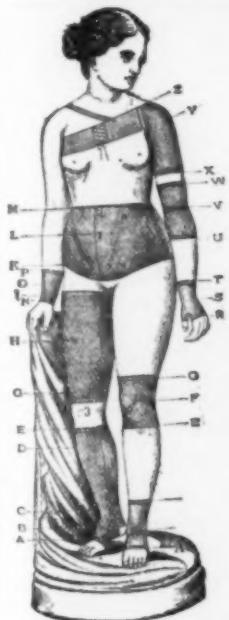
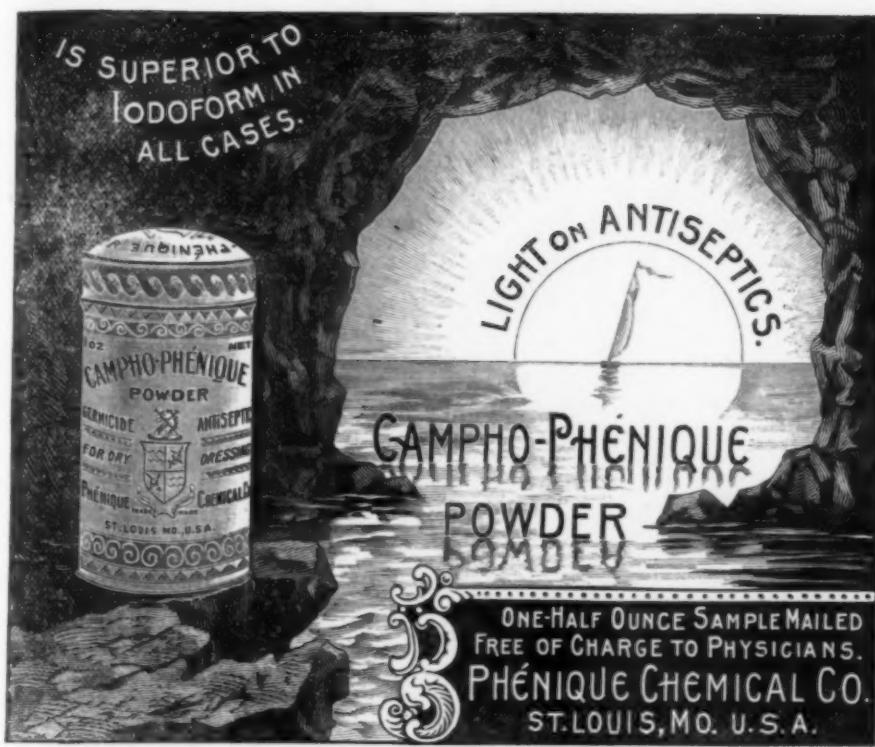
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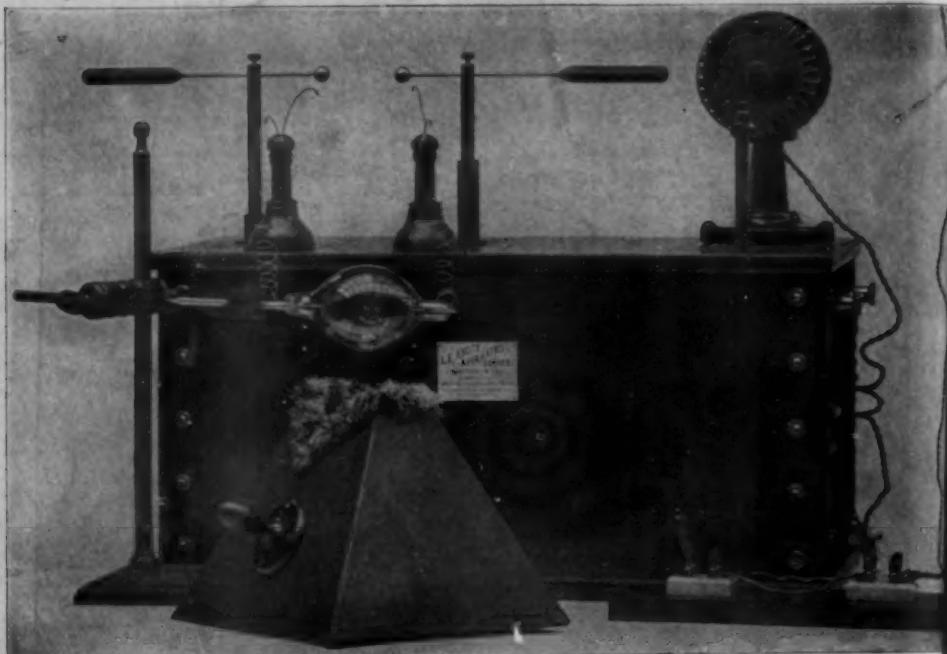
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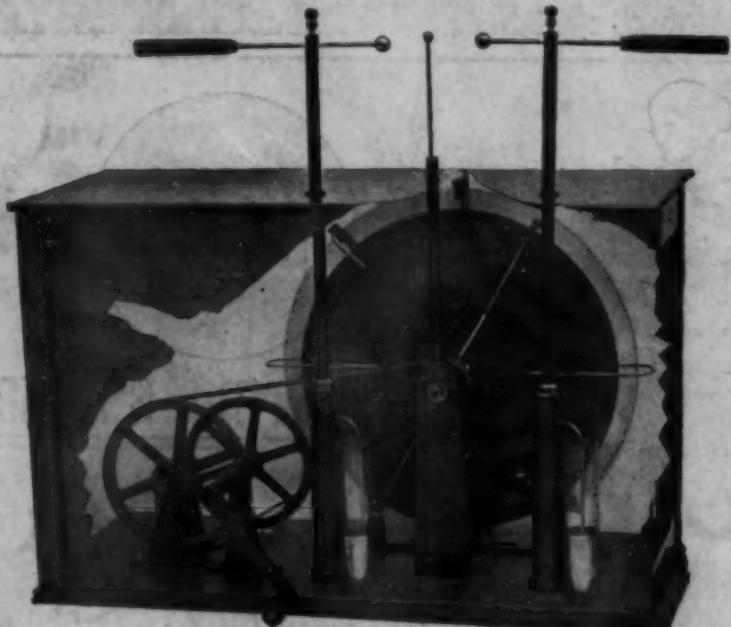
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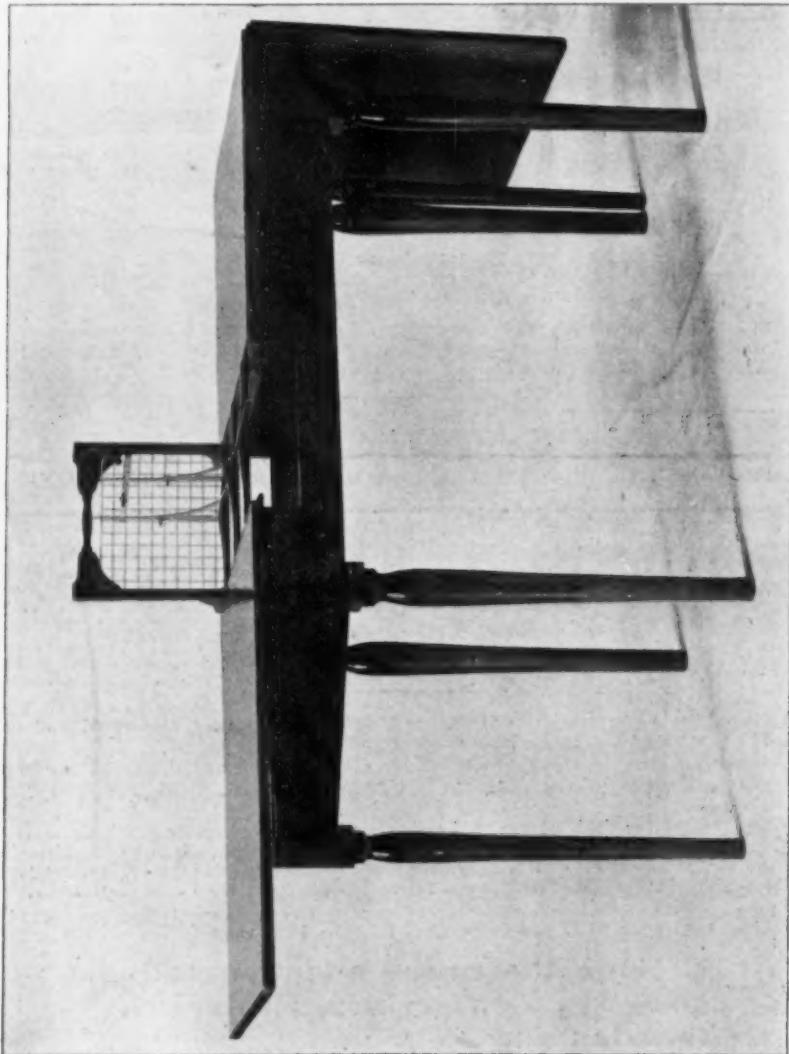
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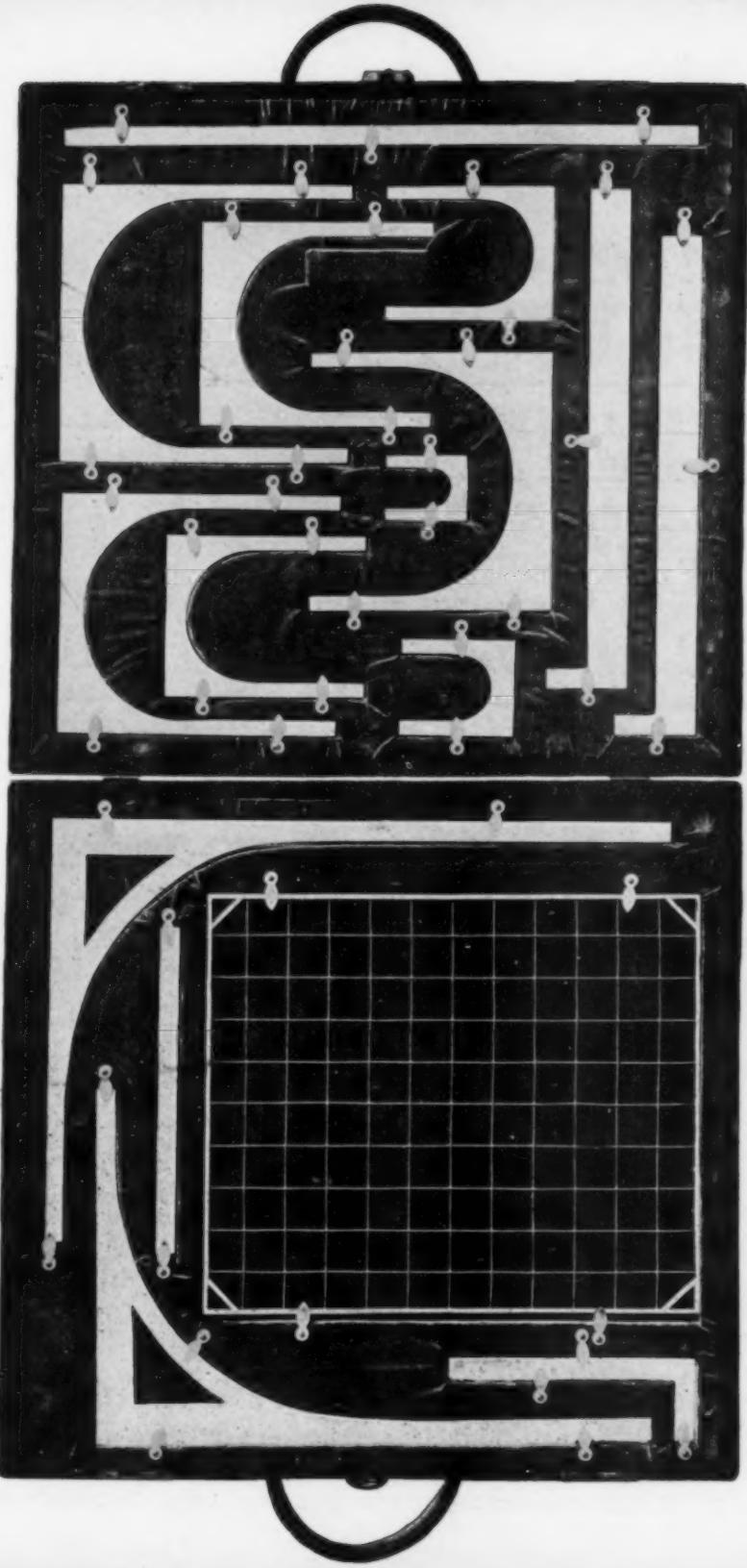
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Silica	2.6576
Alumina	5.4613
Lime	33.0132
Magnesia	23.1554
Soda	26.6526
Lithia	.1023
Sulphur Trioxide	540.7131
Chlorine	.2421
Oxygen for Chlorine	.9976
	.0546
Fixed Residue	831.9430
These substances are united as follows:	
Silica	2.6576
Sulphate of Alumina	18.3114
Sulphate of Lime	80.1749
Sulphate of Magnesia	609.4062
Sulphate of Soda	61.0431
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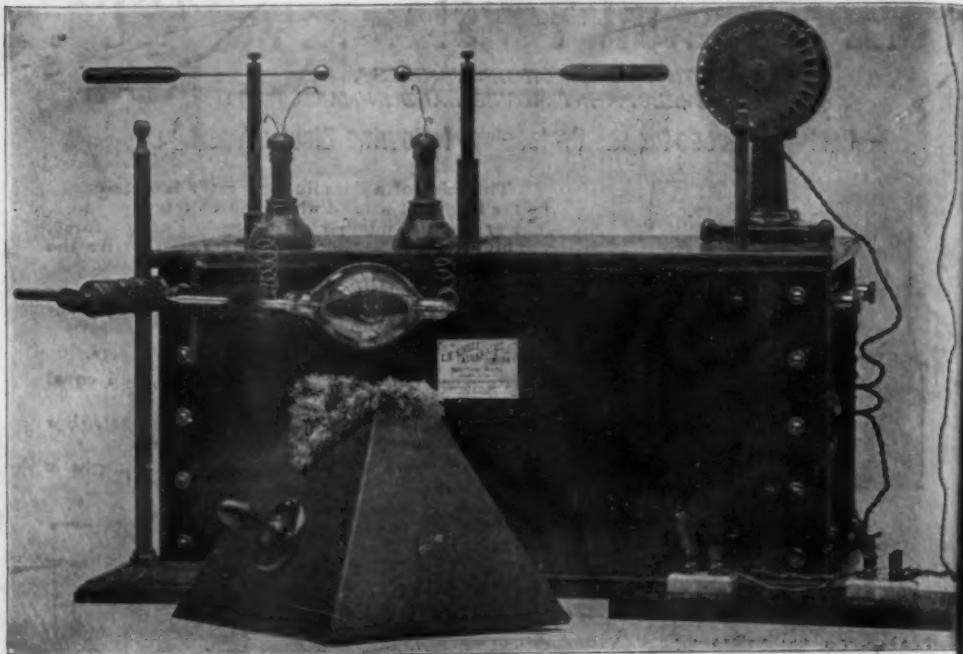
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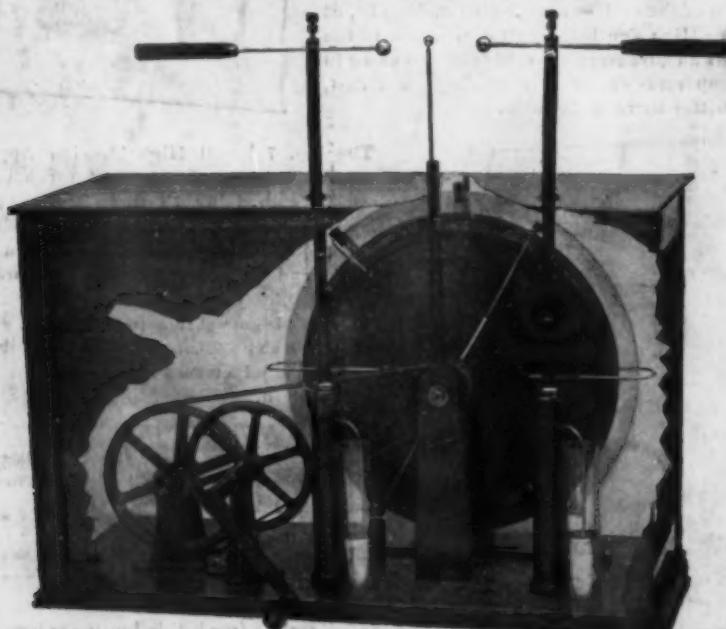
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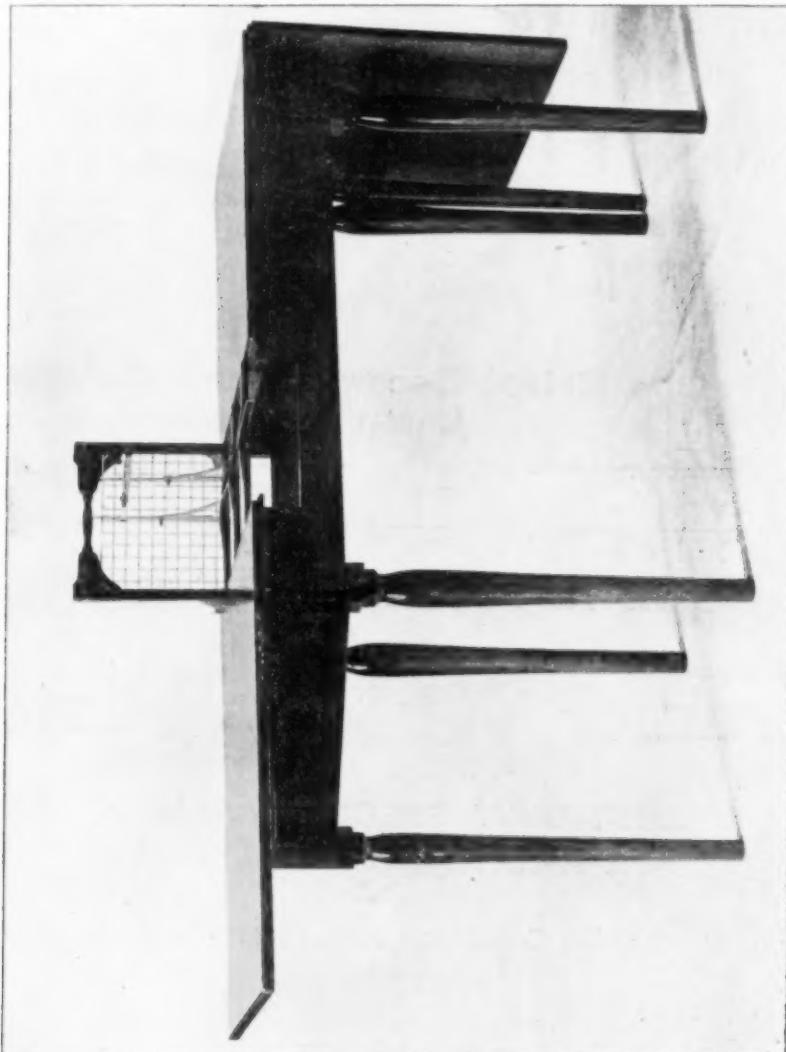
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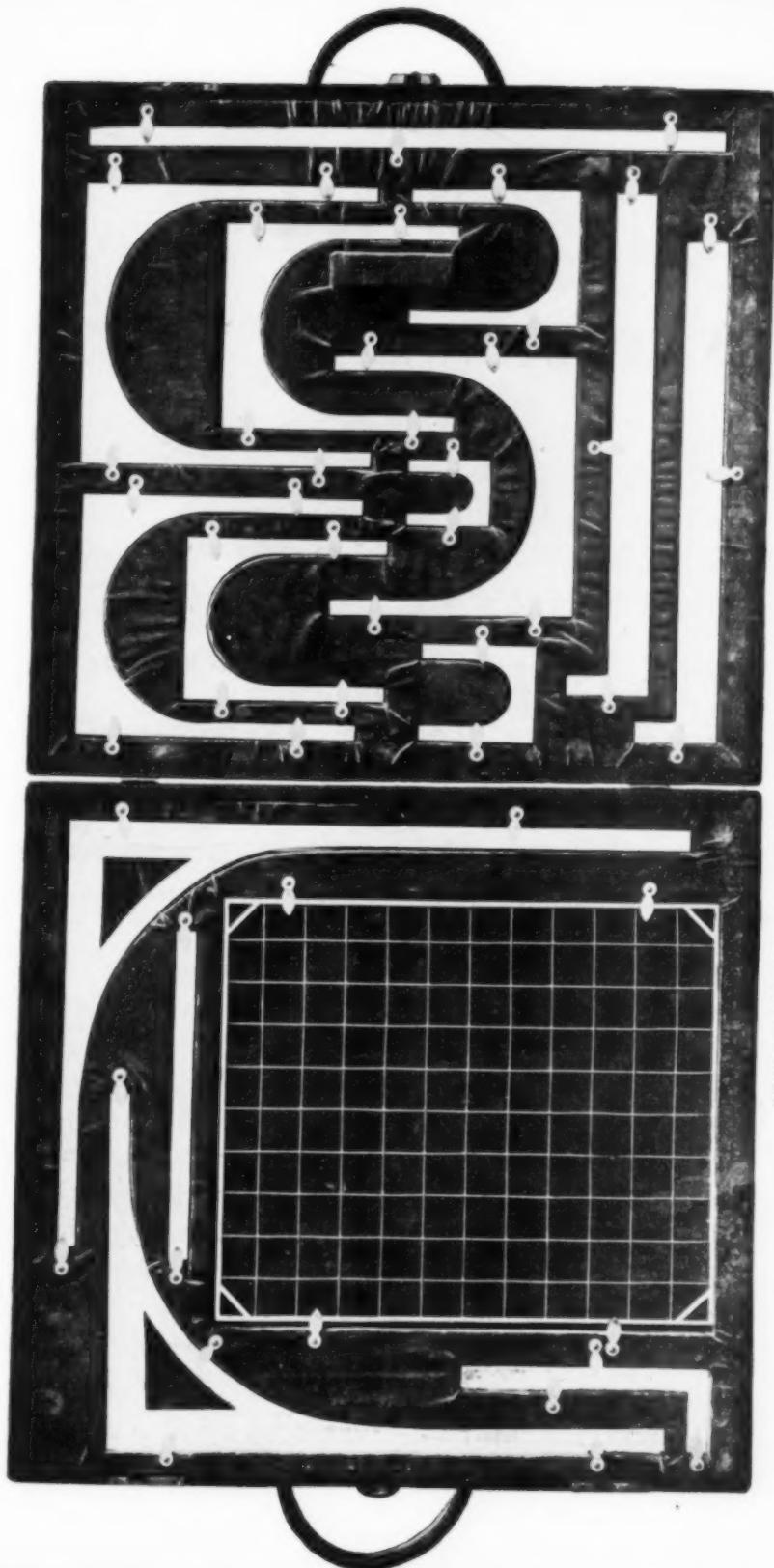


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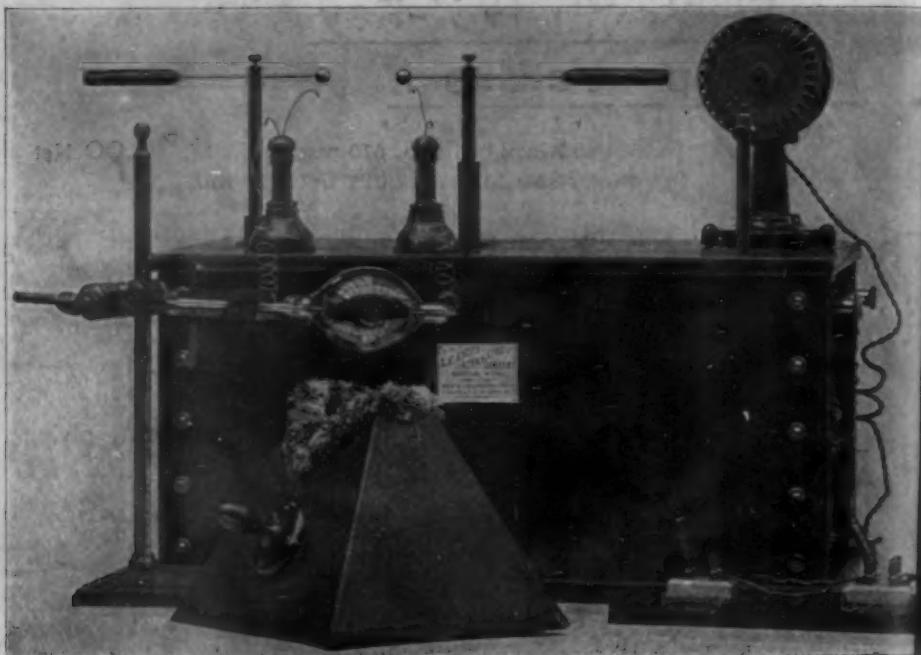


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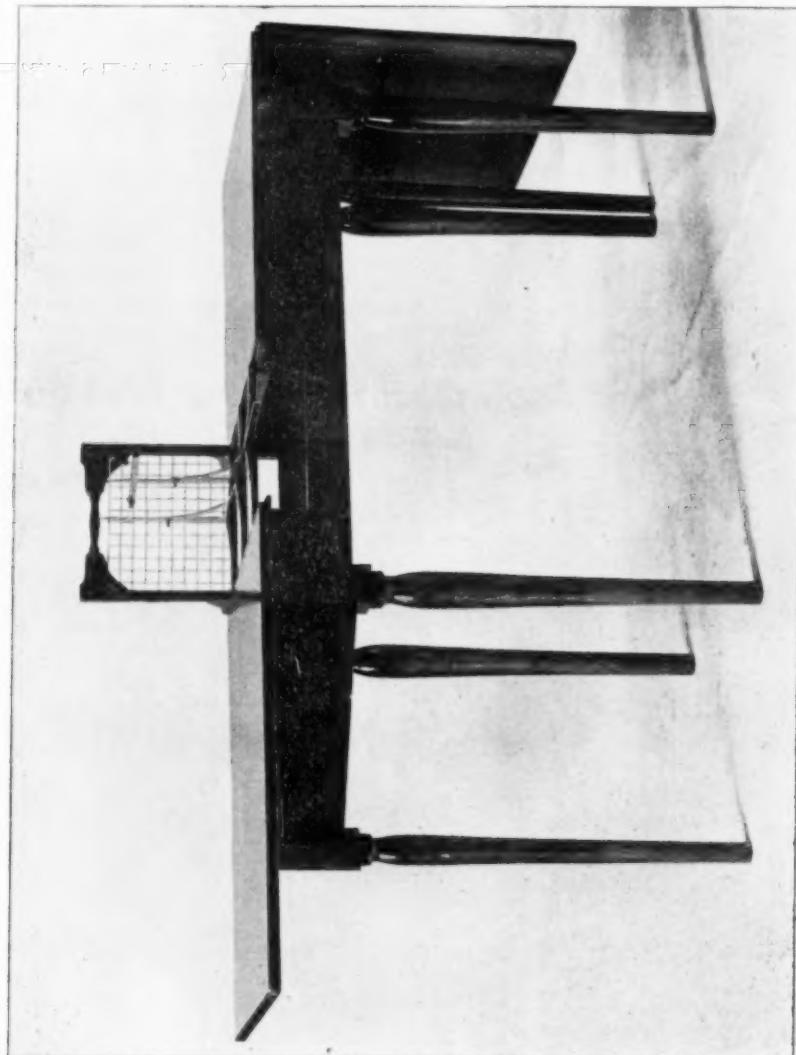
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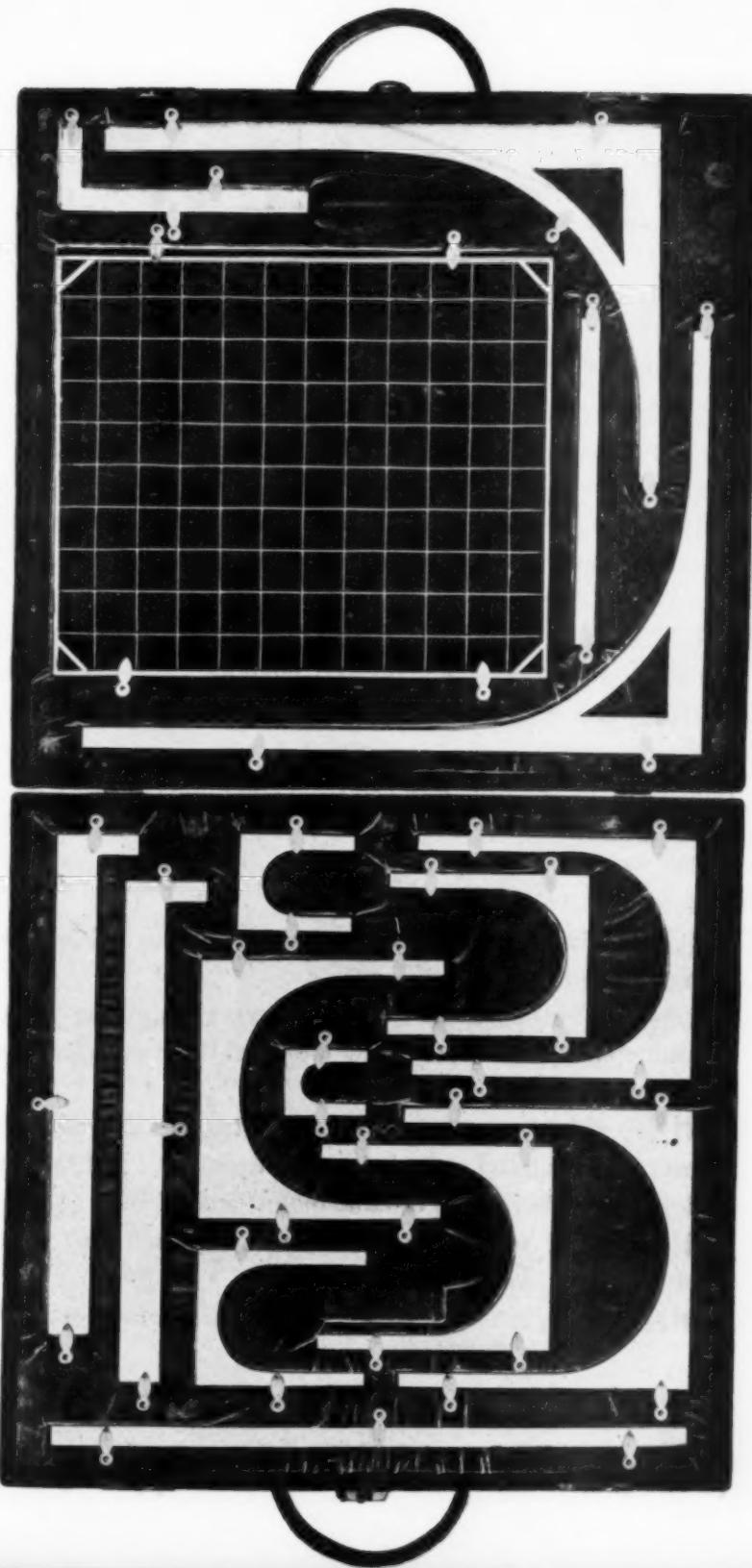


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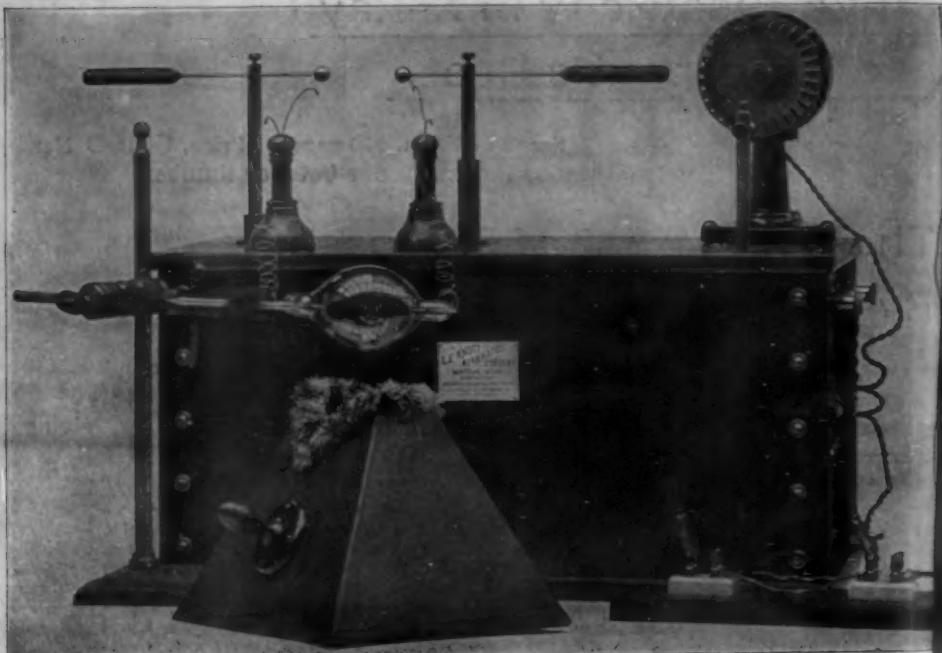
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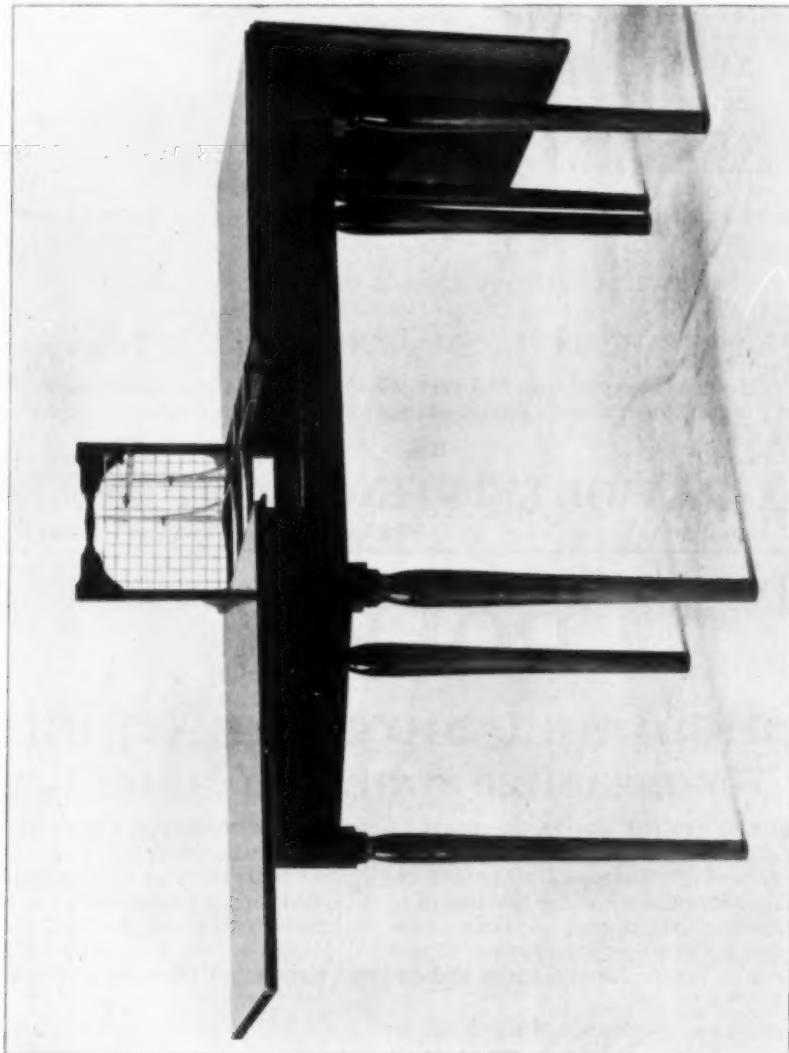
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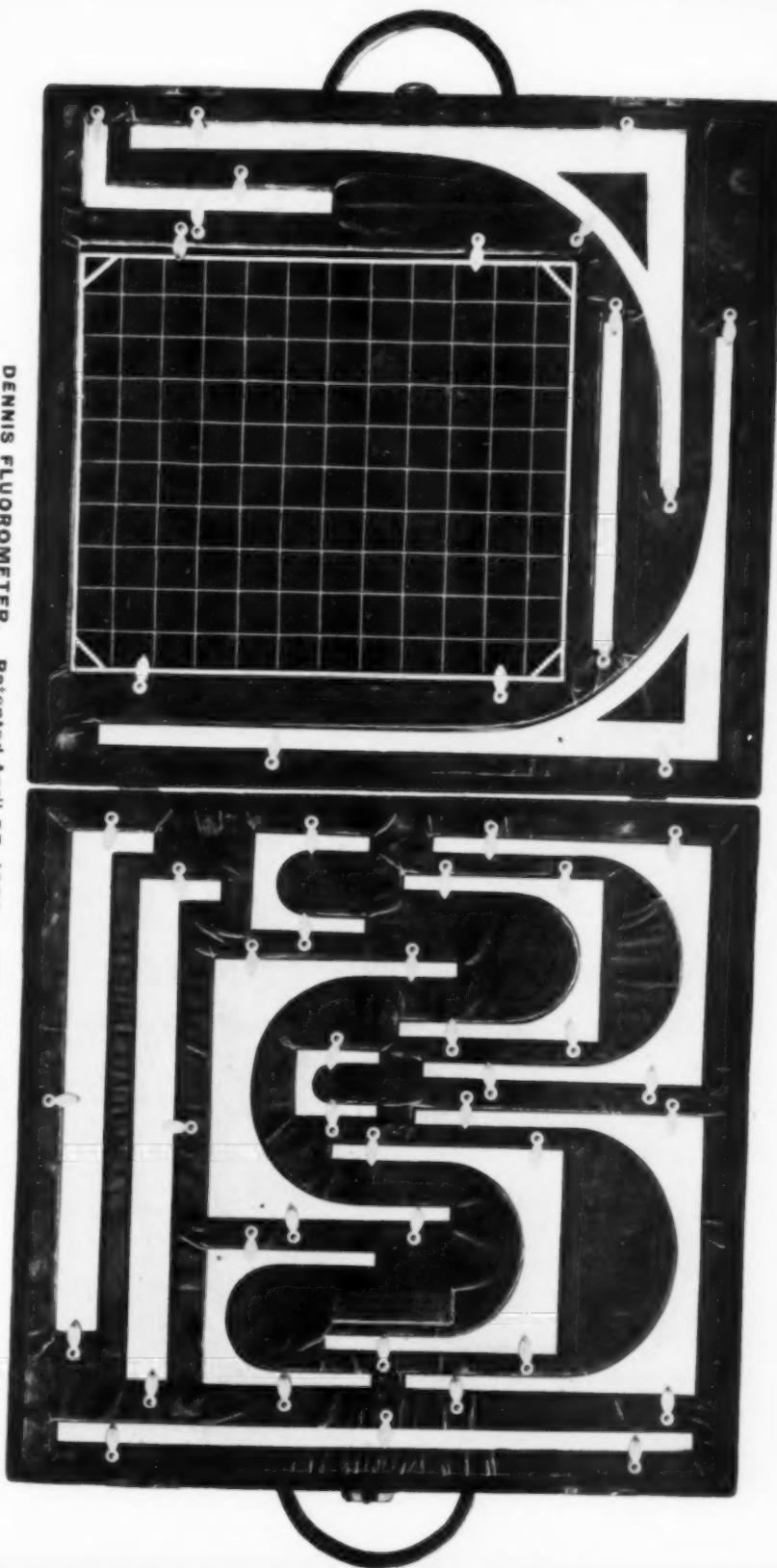


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|-------------------------|--------------|
| Silica                  | 2.6576       |
| Alumina                 | 5.4613       |
| Lime                    | 33.0132      |
| Magnesia                | 23.1554      |
| Soda                    | 26.6526      |
| Lithia                  | .1023        |
| Sulphur Trioxide        | 540.7131     |
| Chlorine                | .2121        |
| <br>Oxygen for Chlorine | <br>83.9976  |
|                         | .0346        |
| <br>Fixed Residue       | <br>831.9430 |

|                                         |              |
|-----------------------------------------|--------------|
| These substances are united as follows: |              |
| Silica                                  | 2.6576       |
| Sulphate of Alumina                     | 18.3114      |
| Sulphate of Lime                        | 80.1749      |
| Sulphate of Magnesia                    | 609.4062     |
| Sulphate of Soda                        | 61.0431      |
| Chloride of Lithium                     | .298         |
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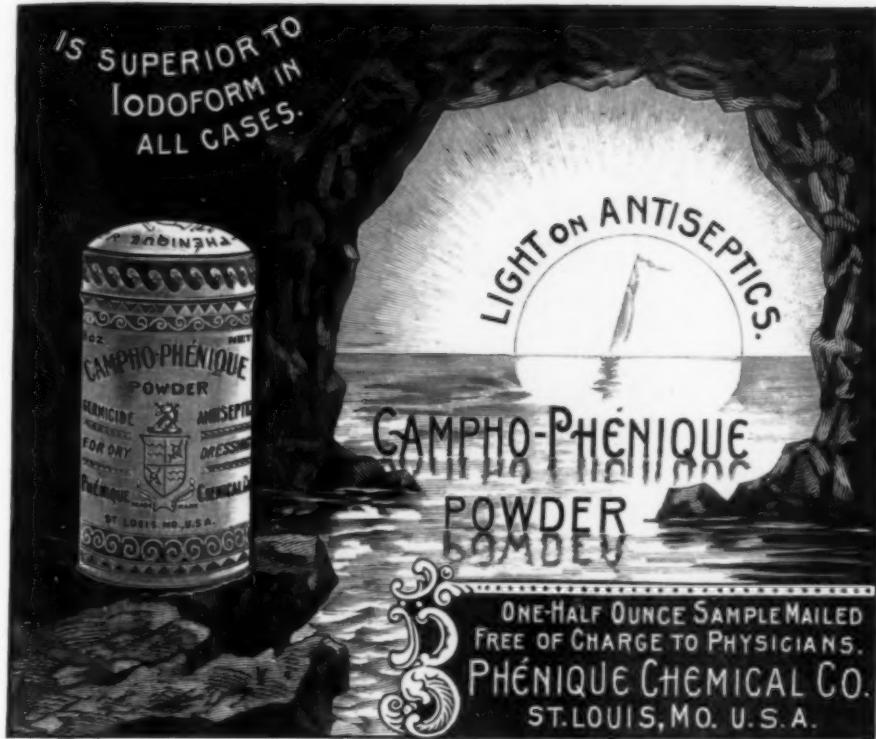
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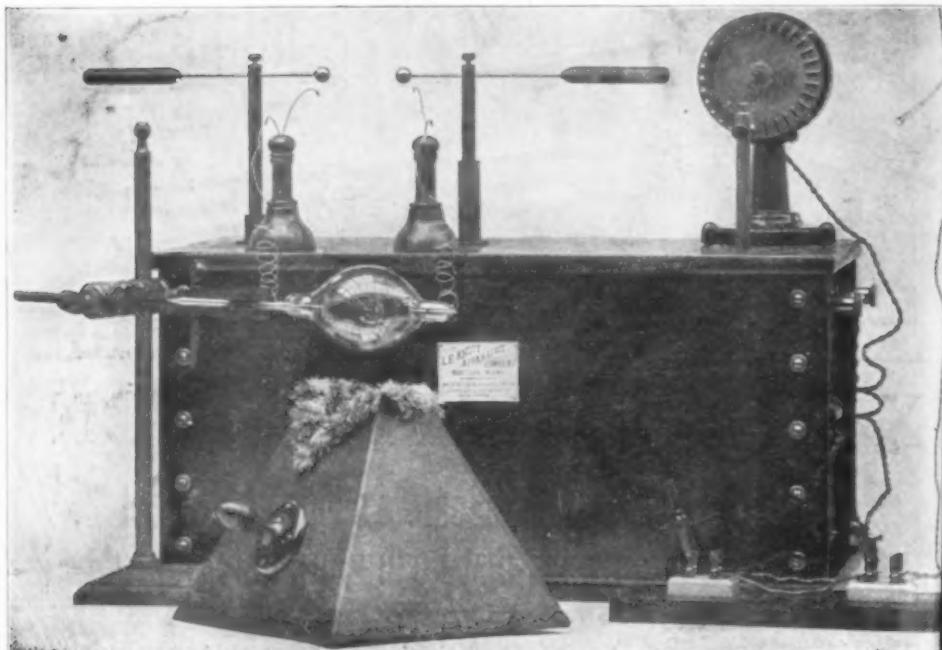
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**American Medical Association, Denver, Col., June, 1898.**

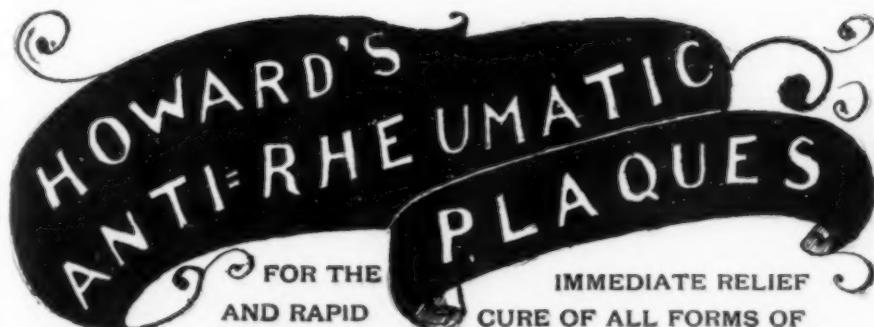
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| Magnesia            | 221.1554 |
| Soda                | 26.6526  |
| Lithia              | .1023    |
| Sulphur Trioxide    | 540.7131 |
| Chlorine            | .2421    |
|                     |          |
| Oxygen for Chlorine | .9976    |
|                     | .0546    |
| Fixed Residue       | 83.9430  |

These substances are united as follows:

|                      |          |
|----------------------|----------|
| Silica               | 2.6576   |
| Sulphate of Alumina  | 18.3114  |
| Sulphate of Lime     | 80.1749  |
| Sulphate of Magnesia | 600.4662 |
| Sulphate of Soda     | 61.0431  |
| Chloride of Lithium  | .2908    |
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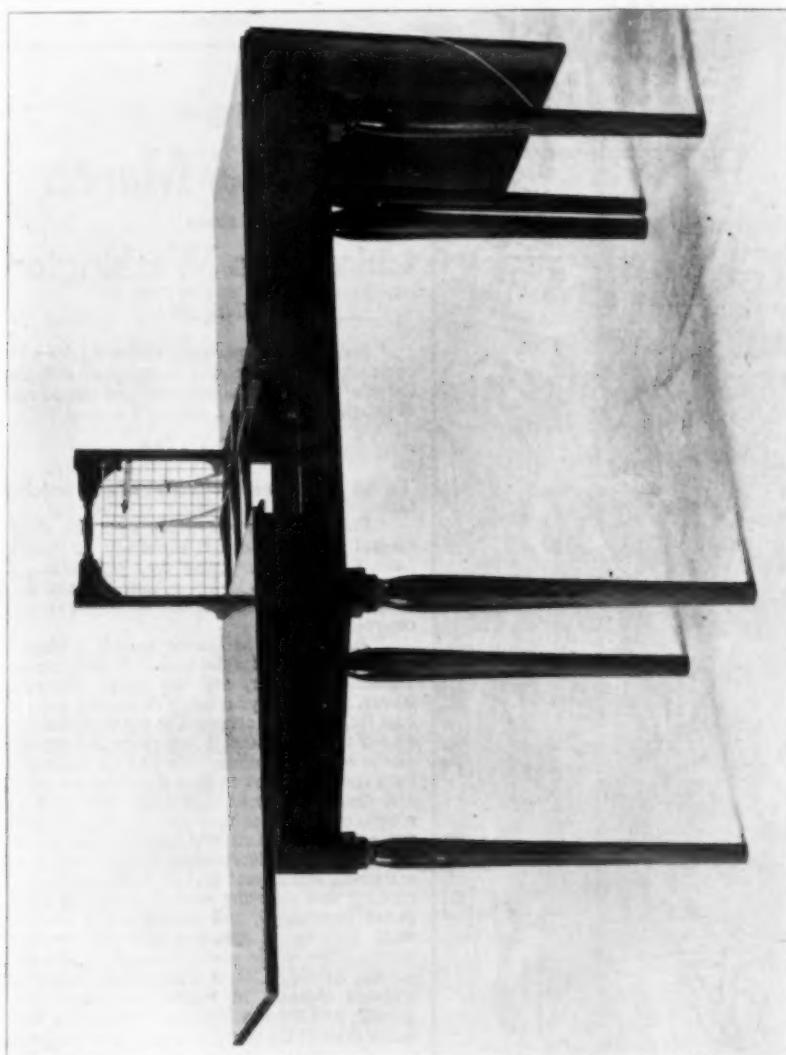
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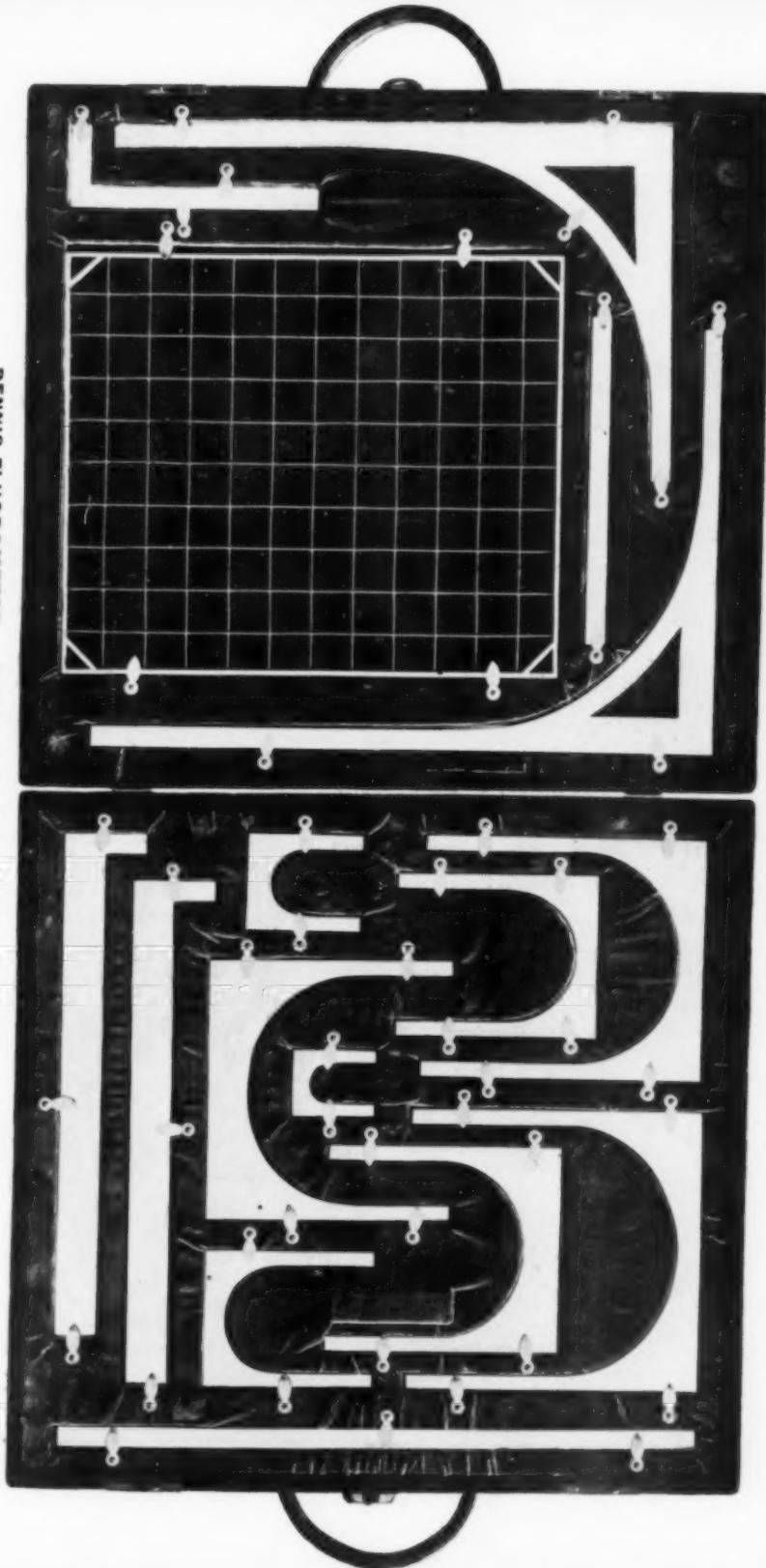
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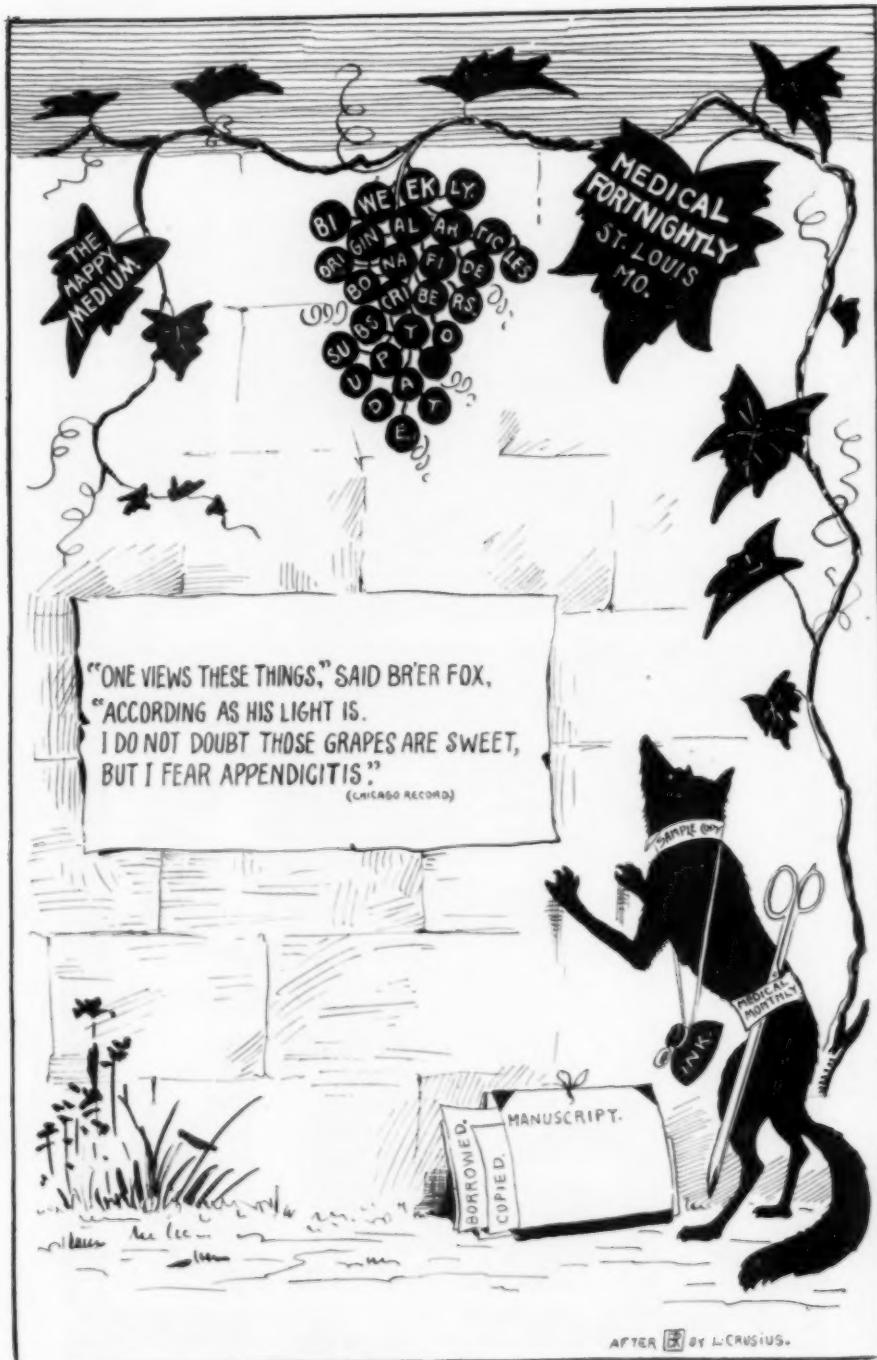
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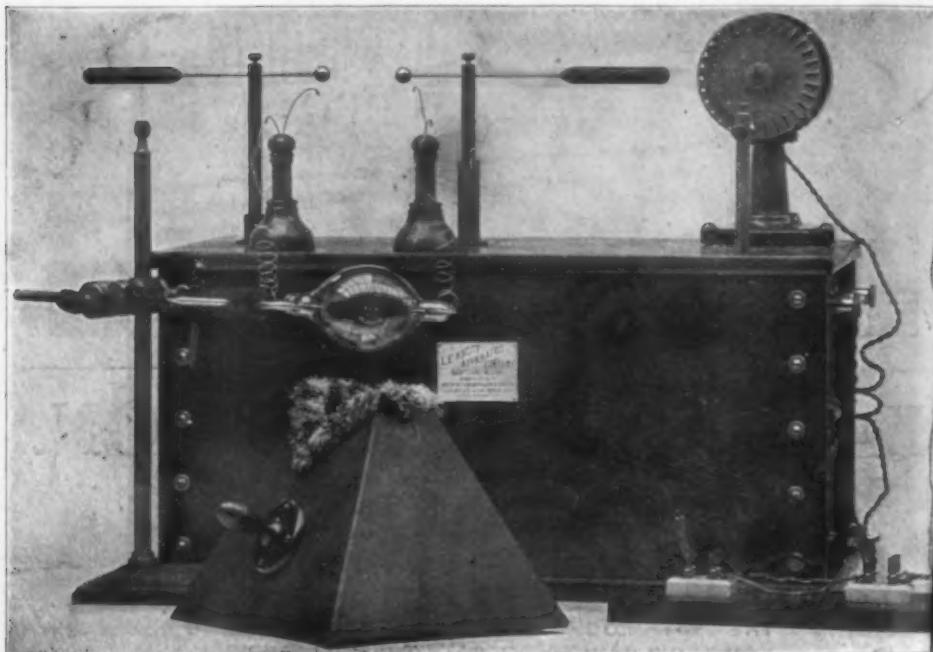
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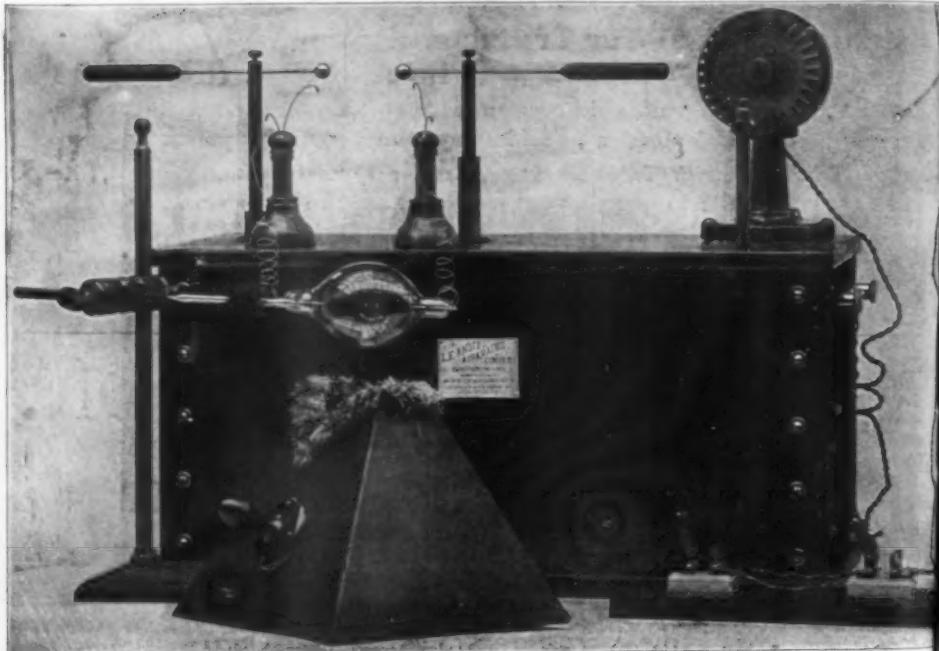
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| Alumina.....              | 5.4613   |
| Lime.....                 | 35.0132  |
| Magnesia.....             | 23.1554  |
| Soda .....                | 26.6526  |
| Lithia.....               | .1023    |
| Sulphur Trioxide.....     | 540.7131 |
| Chlorine.....             | .2421    |
| .....                     | .....    |
| Oxygen for Chlorine ..... | 831.9976 |
| .....                     | .....    |
| Fixed Residue.....        | 831.9430 |

|                                         |          |
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| These substances are united as follows: |          |
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| Sulphate of Alumina .....               | 18.3114  |
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Nature's law of compensation works in many curious ways. As mankind progresses and evolves slowly from one plane to another, from some source come methods, substances and events that seem intended by law, to break down physical humanity, and prevent too rapid progress.

It is easy to realize that if no obstacles stood in the way of the physical and mental progress of mankind, a few years would show developments so rapid, that it would be hard to keep pace with them. So nature provides a way to kill off the surplus and give those who insist upon winning, some work before they earn their spurs. Most powerful animating motives dominate men, that by seeming mesmeric power, direct them to use elements, well-known factors for physical and mental destruction. Among these, we have whisky, tobacco, coffee.

The healthy ones smile and say, "They never hurt me," and go along in a helpless fashion much like hypnotic subjects, until sudden collapse occurs and they wake to find paralysis, heart failure, Bright's disease or some form of nervous climax has settled itself upon the body, and become a most undesirable visitor. That a man should yield himself to the machinations of this tearing down law, and enter a game where the loss is sure, with an absolute impossibility of winning, is worthy of note. This seems nature's way to keep down the crowd and allow room for the few determined ones to win out.

It requires no argument or special mental ability, to teach the trainer of a fine race horse, that if he expects his horse to win in the sharp competition in the speed ring, the physical body of the horse must be properly cared for, by good food, drink, fresh air and exercise.

No care would be spared to prevent such a horse from taking into his system, any sort of drug or disintegrating substance that would break down his powers. On the other hand, the wonderful racing machine found in the American citizen of today, is fed in a haphazard fashion, dosed many times a day with a powerful drug called tobacco, and at meals dosed with another powerful drug, called coffee.

These drugs have effects thoroughly well known to all scientific men, and these effects are to alternately stimulate and depress the heart's action, interfere with the digestion of food and slowly break down the delicate gray matter that fills the nerve centers in the entire body.

Cruelly robbed of his powers, the man who presses forward to gain prominence or

even competence, many times falls by the wayside, and if by fortune, his constitution is strong enough to carry him along until a competence is gained, too often he is unable to enjoy the fruits of his labors, because the highly valued, priceless possession of health, has flown.

We all realize, perhaps, that there are some men in the world who could be spared, and might perhaps as well be slowly killed off with whisky, tobacco and coffee, as not, but it is painful experience to those who look with honest pride upon the magnificent work of many of our Americans, to note the failing of their powers caused by the administration of drugs, under this law of compensation. It is true we should allow each individual the liberty of selecting his own pathway, whether it be up or down, provided it does not interfere with the rights of others, but any man or woman who has any sense of pride in the advancement of the race, experiences a feeling of deep regret at this destruction of brilliant possibilities.

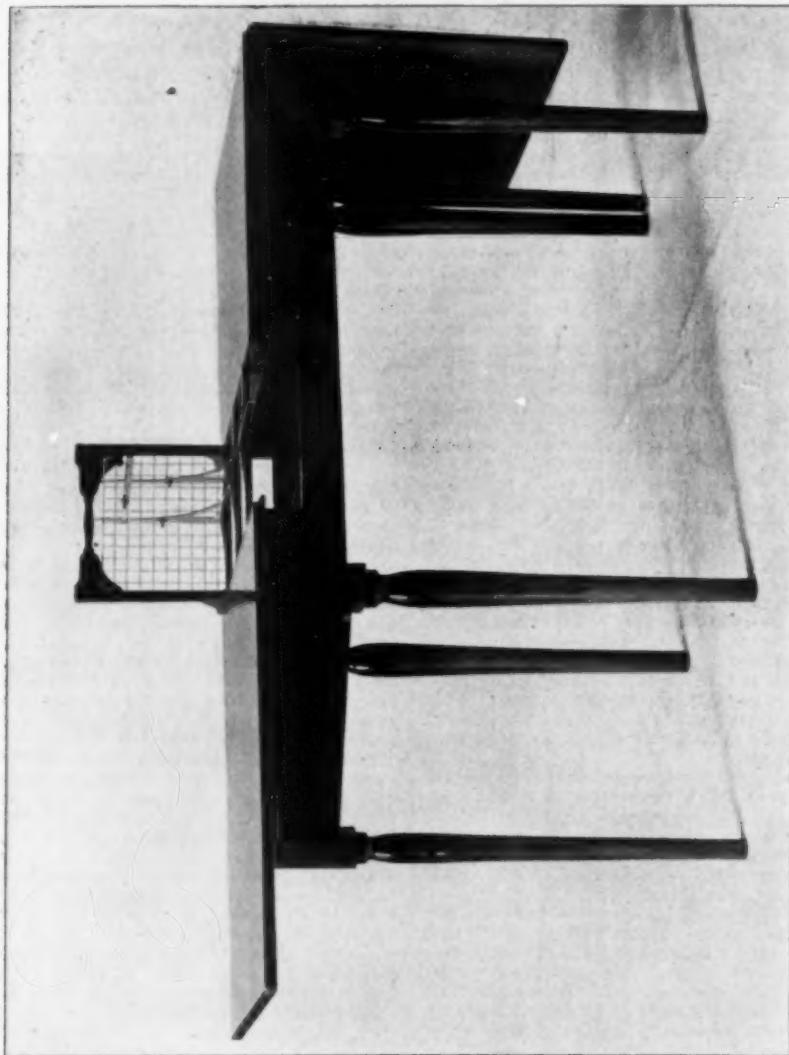
Each individual can, if he will, strip off the powerful impediments, that greatly lessen the powers, even when they do not totally destroy the human organism. Persons frequently find as great a task in breaking the mesmeric spell of the lesser drugs, such as tobacco and coffee, as they do that surrounding whisky, and it is quite commonly remarked, that the lesser drugs really do a greater volume of injury, from the fact that their powers are more hidden.

Persons who do not use tobacco or whisky, and yet find daily protests of some sort from injured nature, will almost invariably discover by leaving off coffee for ten days, that the demoniacal law has attacked them under the guise of coffee. If one esteems health, comfort, peace and content of any value in this world, it is quite well worth leaving off coffee, for the benefit of the experiment. Postum Food Coffee furnishes a palatable beverage next in value, to the coffee drinker's taste, and makes the abandonment of common coffee an easy matter. The change works two ways for good. There is a withdrawal, when coffee is left off, of the active element that breaks down the nerve centres, and in its place, we find a beverage heavy in nutrient, containing 66.10% of the very elements which nature uses to rebuild the gray matter in the nerve centers all over the body. When these powerful factors are combined with a pleasant flavor and the perfect color of Mocha, it presents an article which appeals most strongly to the common sense of the user.

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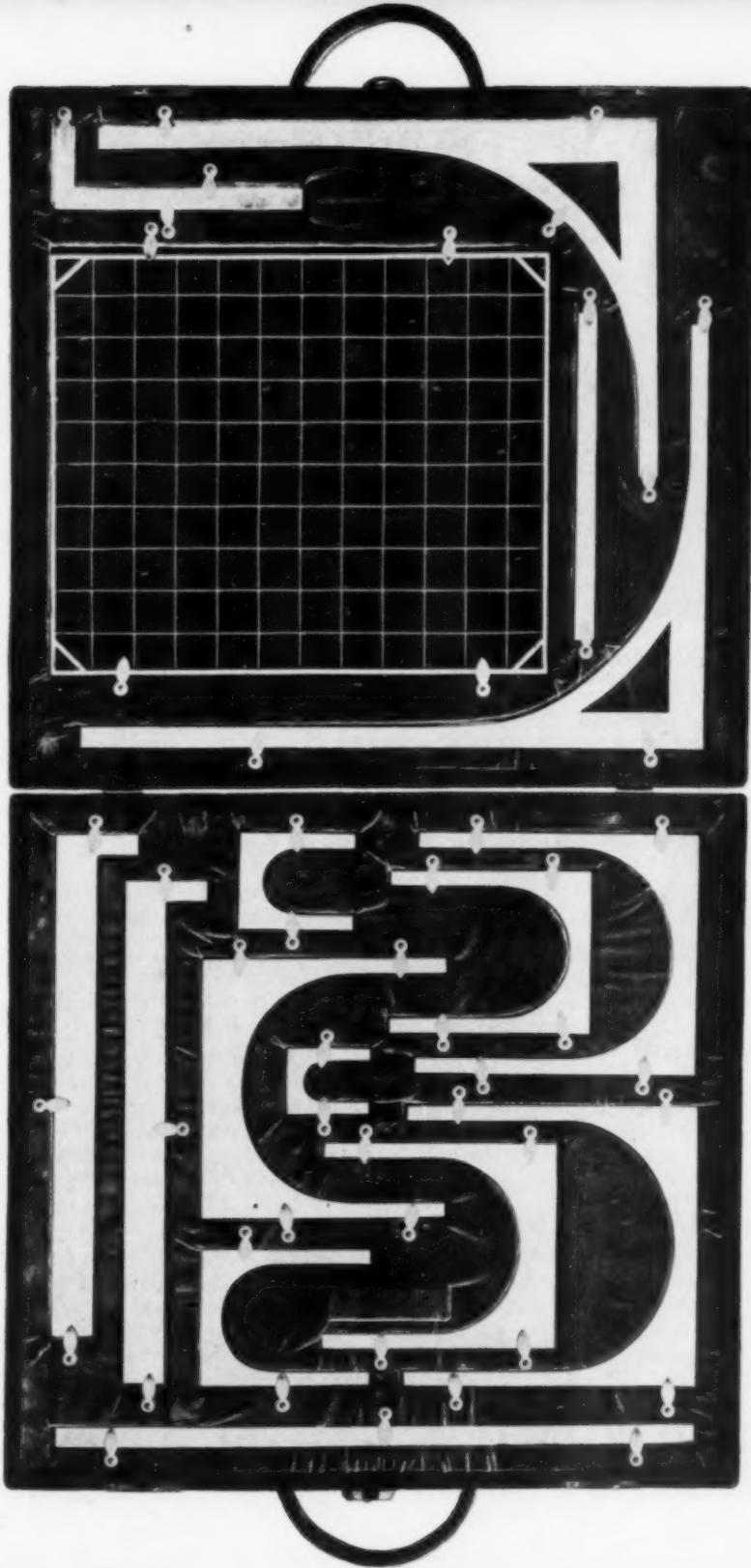
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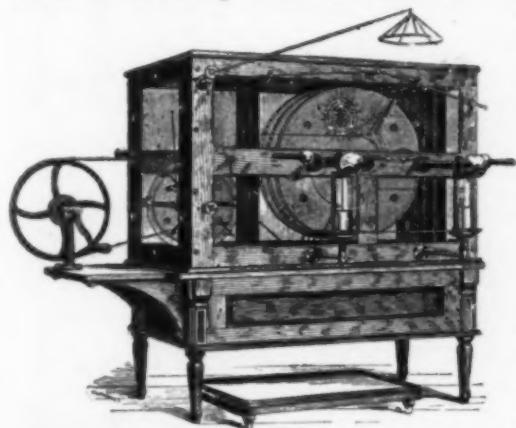
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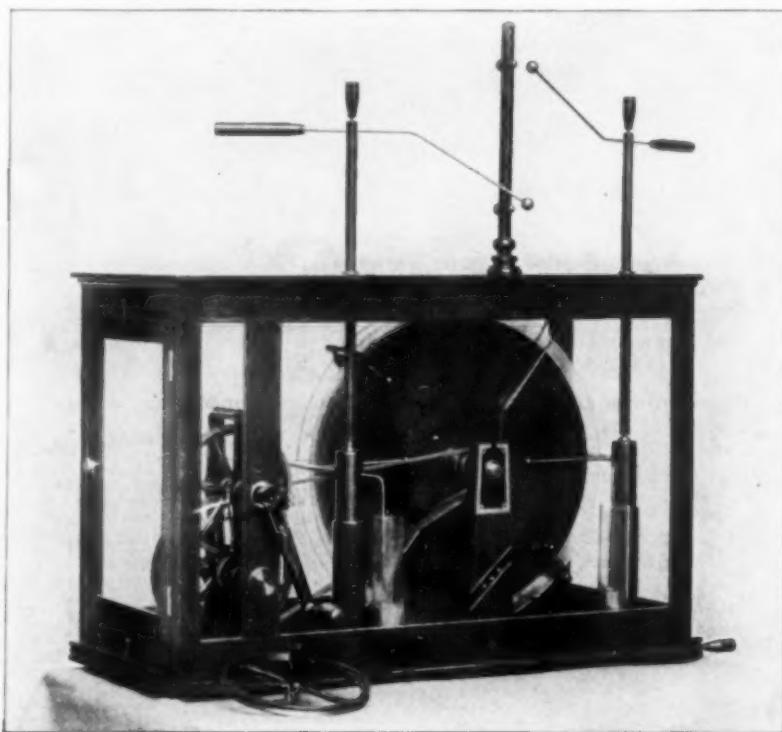
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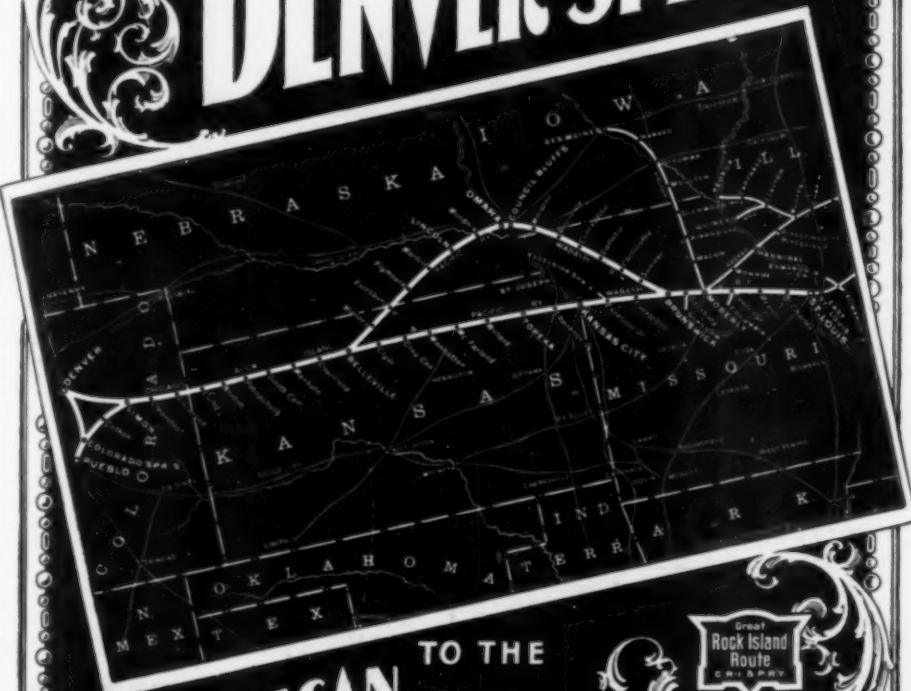
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|                     |          |
|---------------------|----------|
| Silica              | 2.6576   |
| Alumina             | 5.4613   |
| Lime                | 33.0132  |
| Magnesia            | 223.1534 |
| Soda                | 26.6526  |
| Lithia              | .1023    |
| Sulphur Trioxide    | 540.7131 |
| Chlorine            | .2421    |
|                     | 83.9976  |
| Oxygen for Chlorine | .0546    |
| Fixed Residue       | 831.9430 |

These substances are united as follows:

|                      |          |
|----------------------|----------|
| Silica               | 2.6576   |
| Sulphate of Alumina  | 18.3114  |
| Sulphate of Lime     | 80.1749  |
| Sulphate of Magnesia | 669.4662 |
| Sulphate of Soda     | 61.0431  |
| Chloride of Lithium  | .298     |
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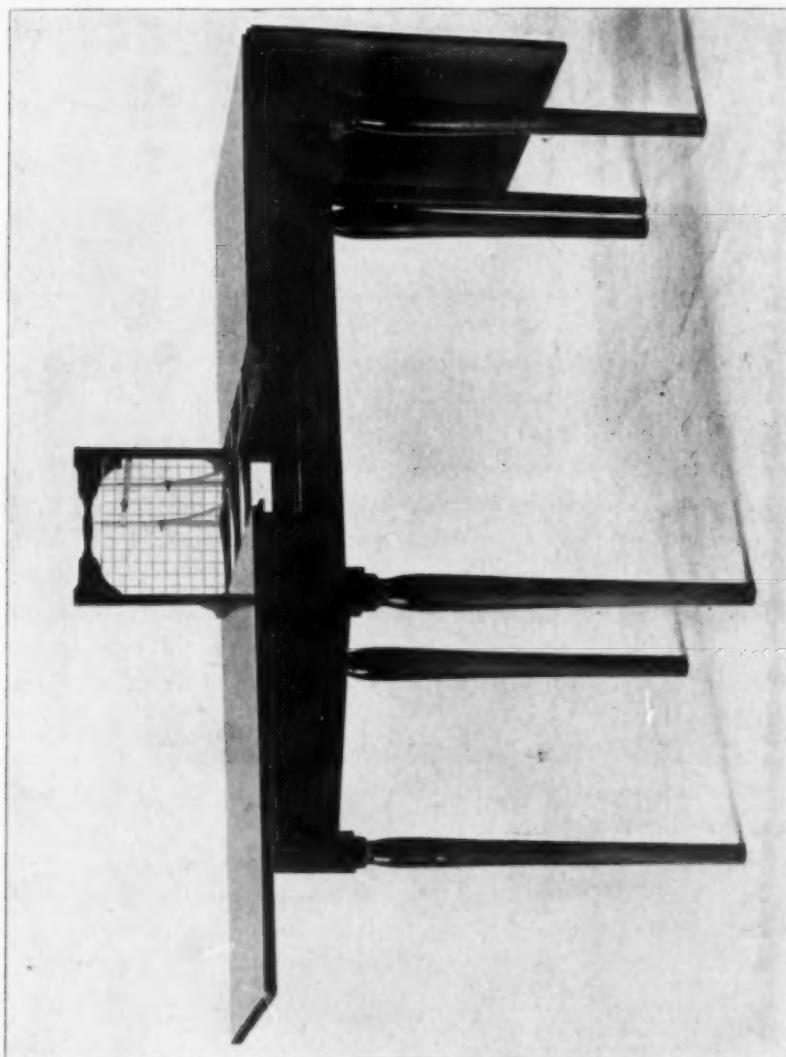
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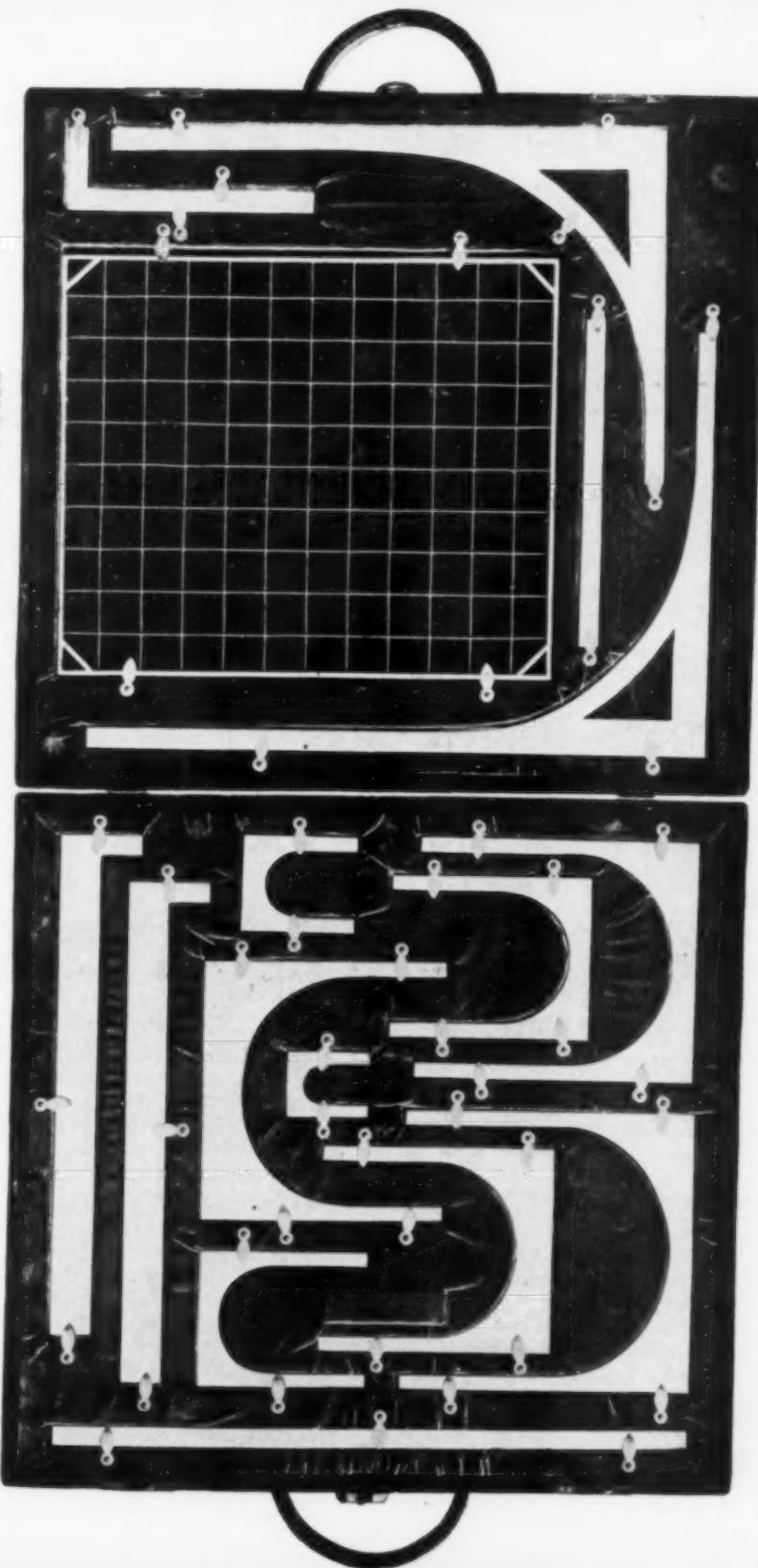


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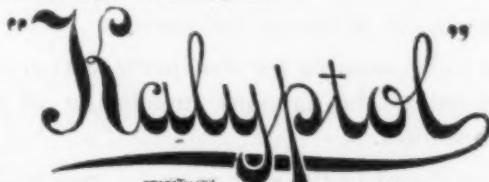
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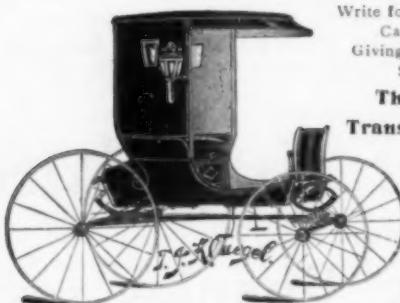
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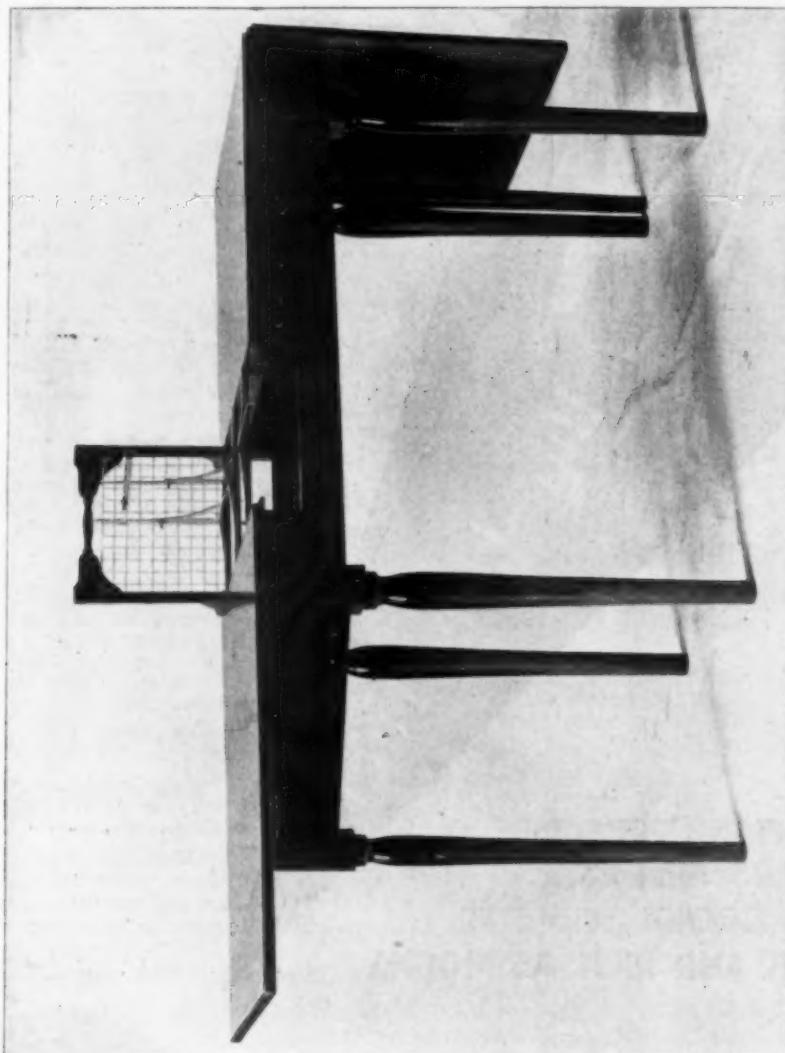
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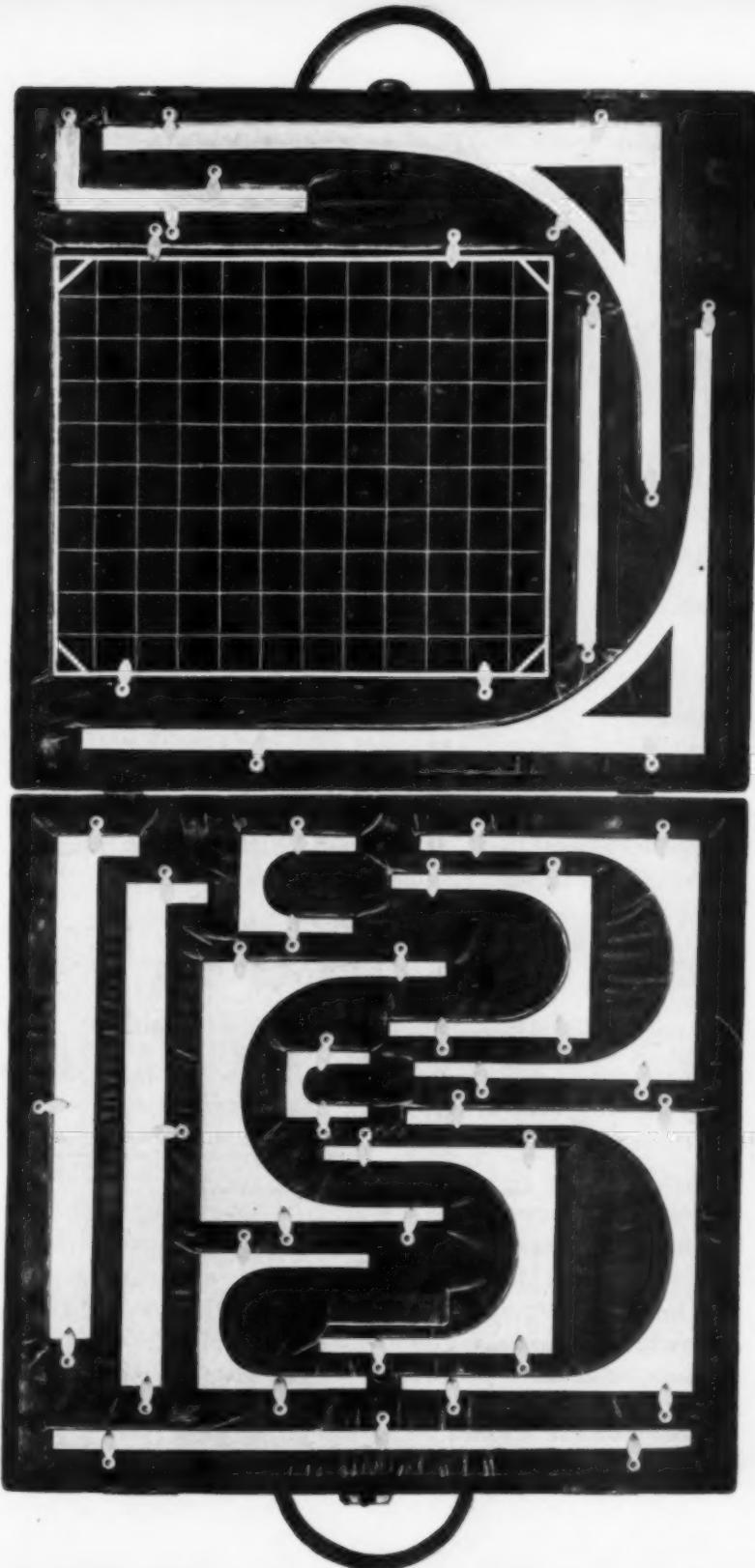
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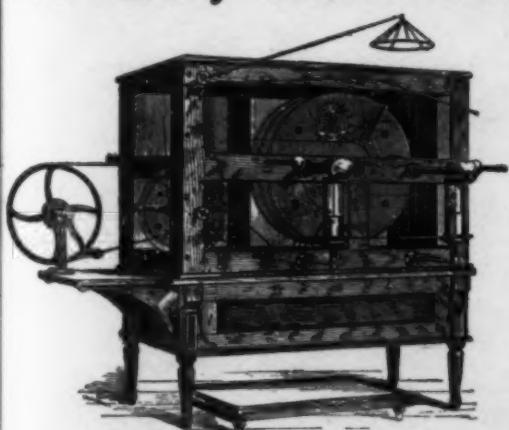
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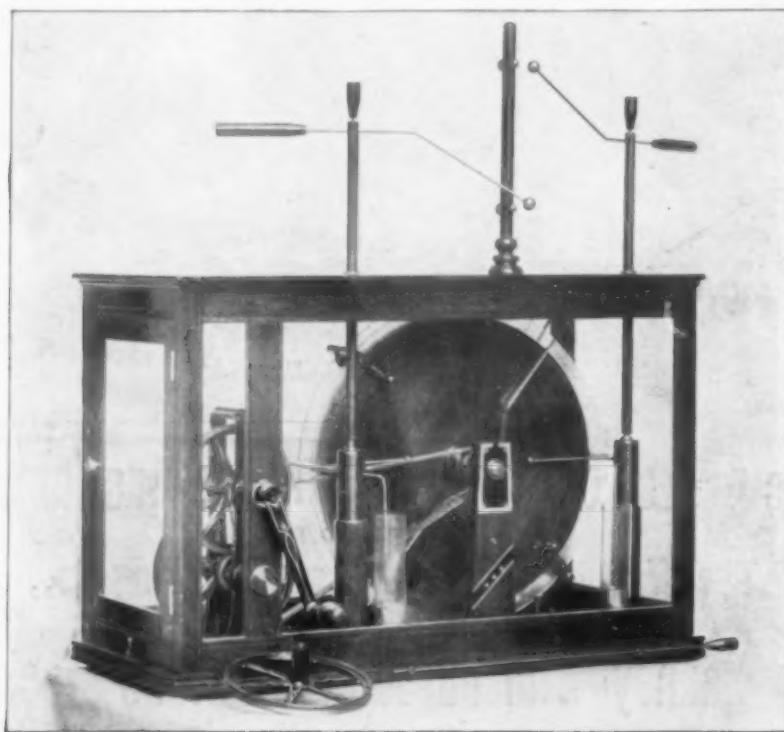
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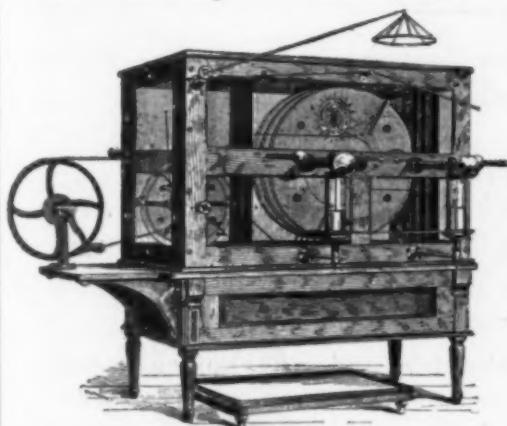
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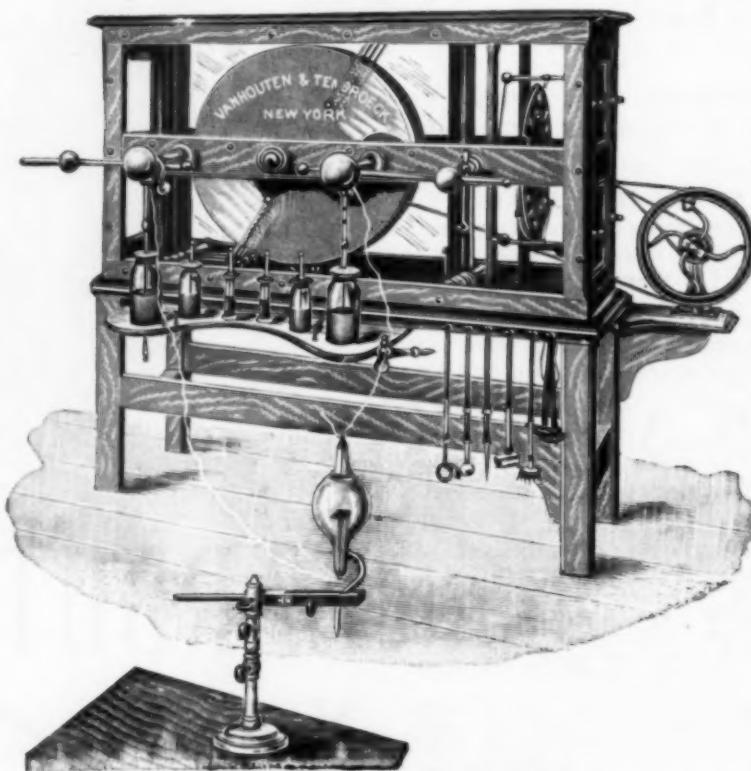
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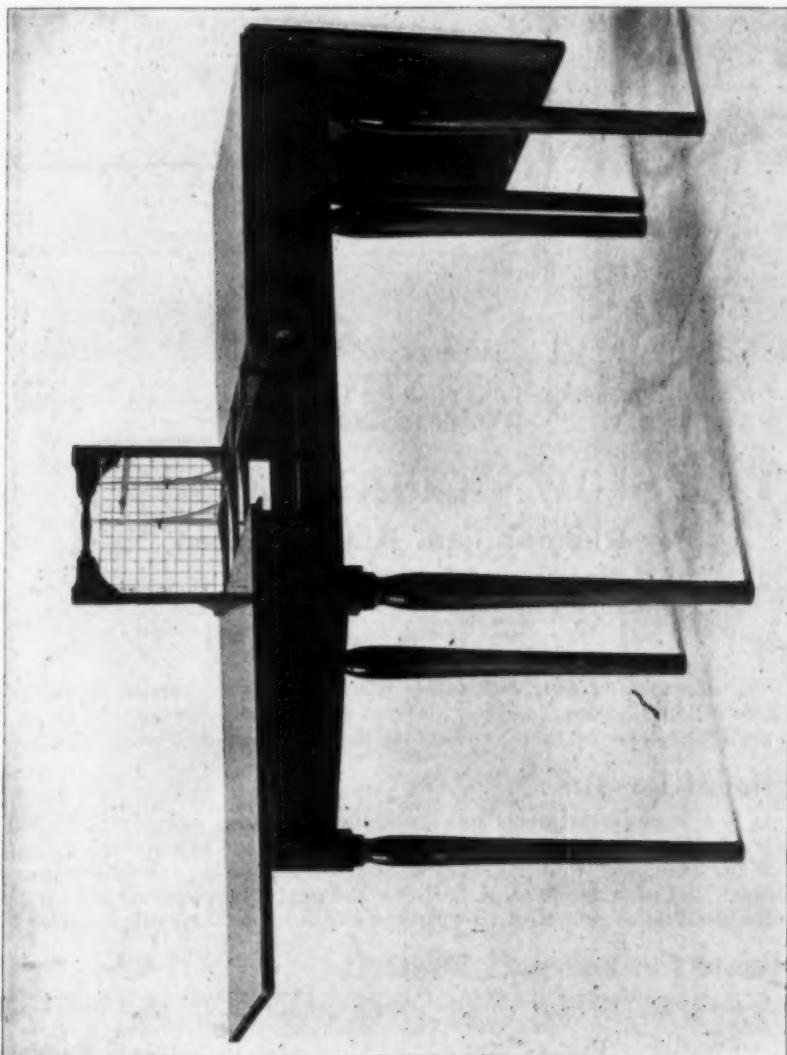
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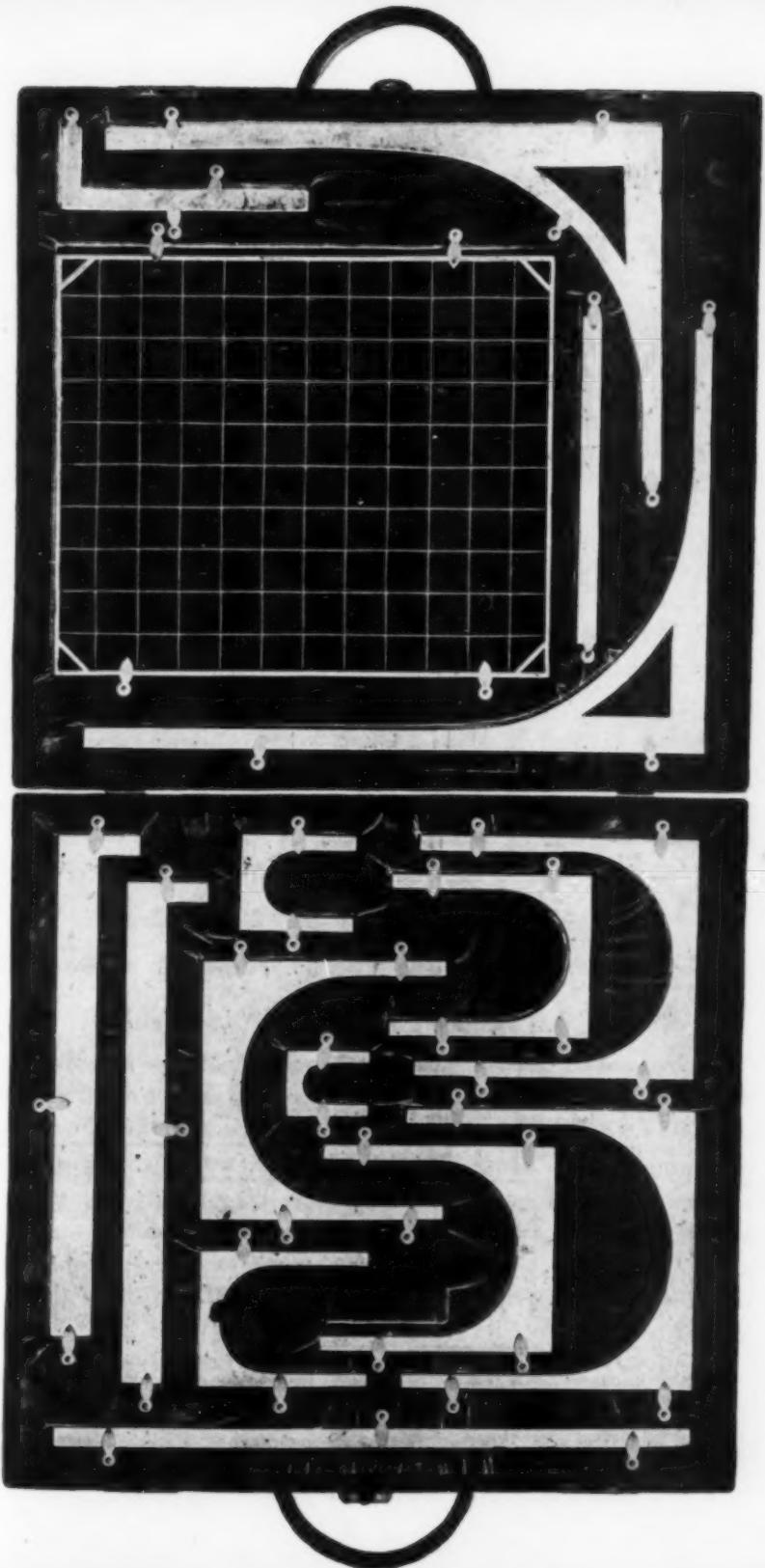
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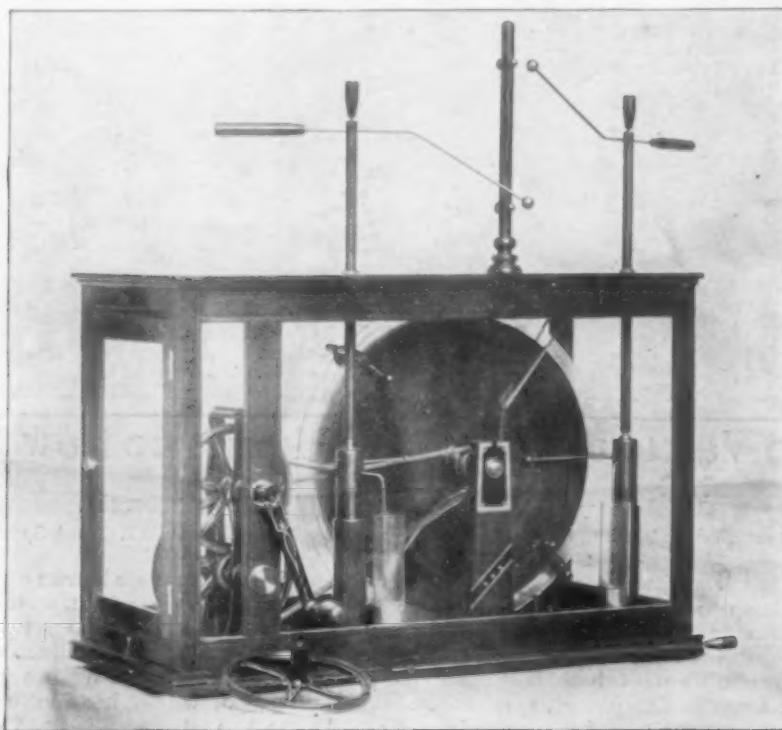
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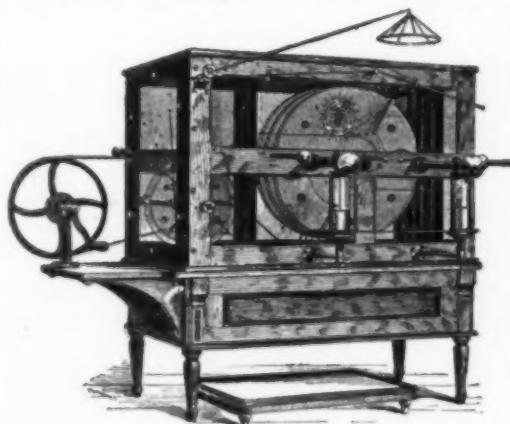
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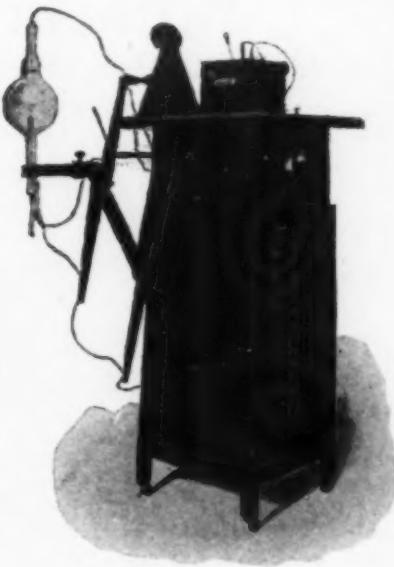
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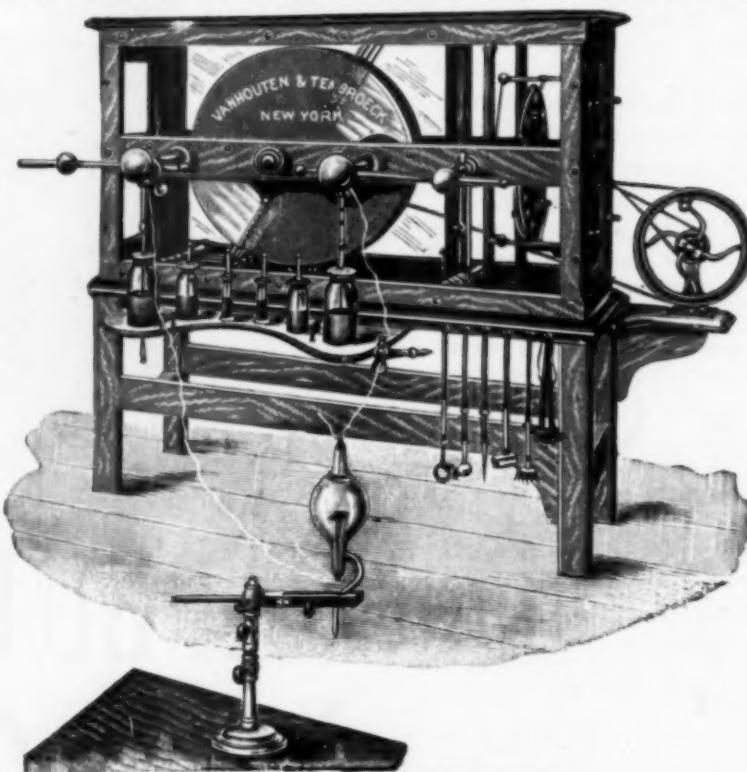
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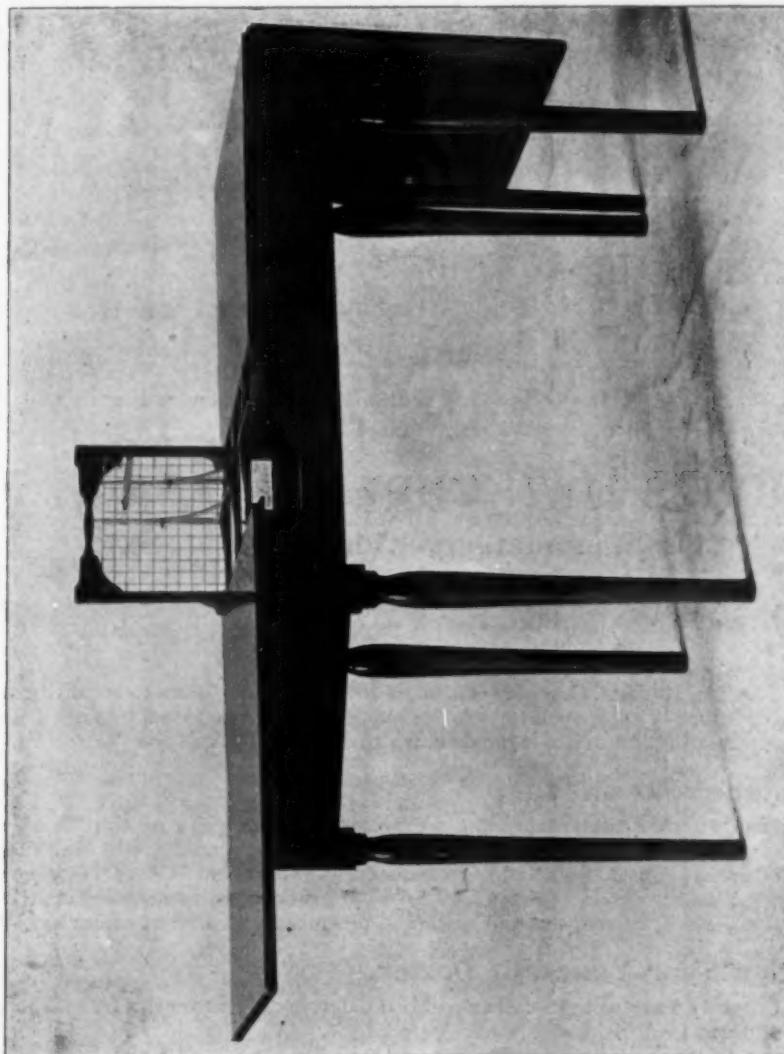
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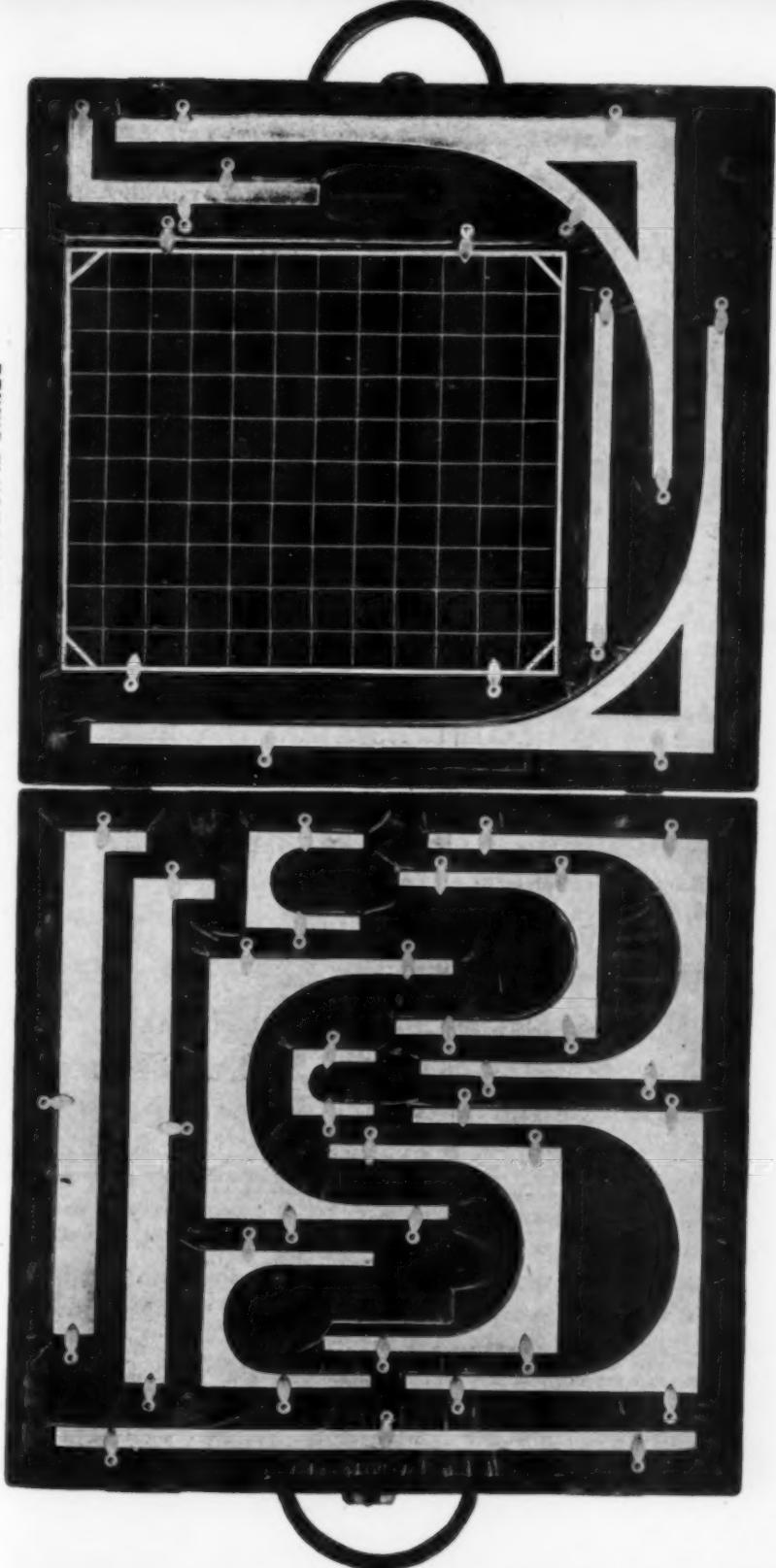
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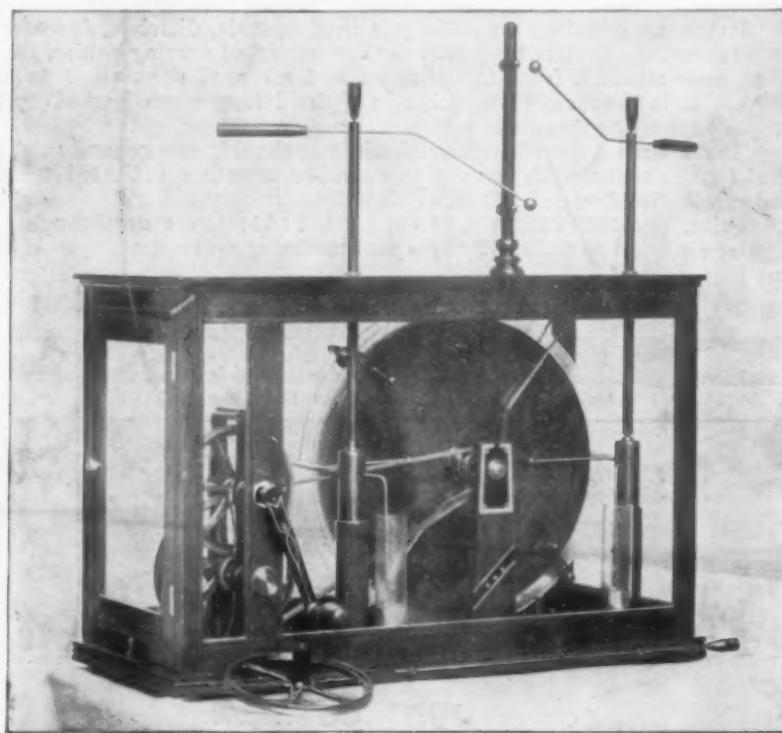
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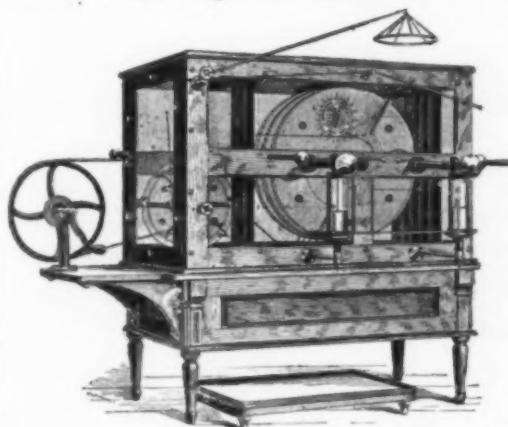
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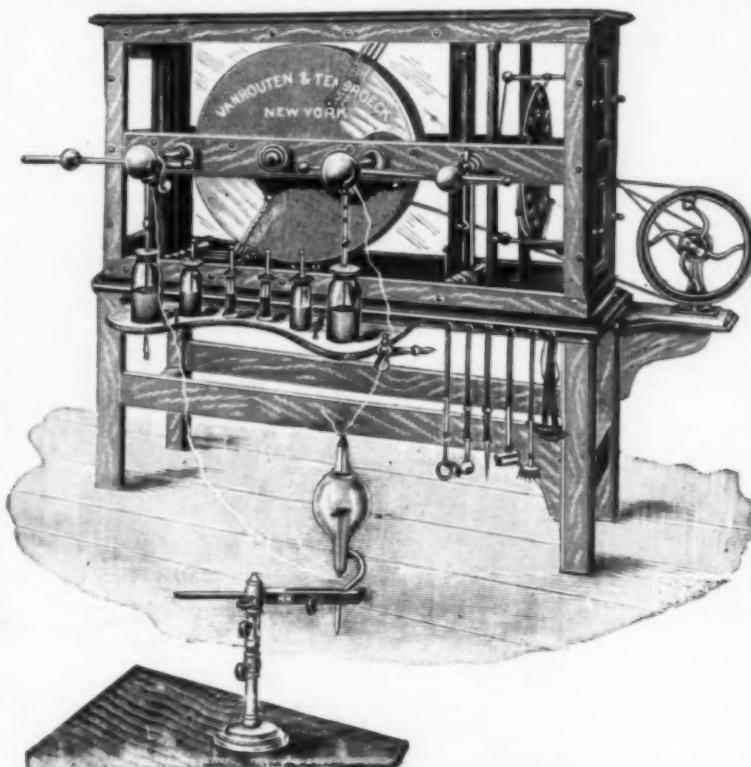
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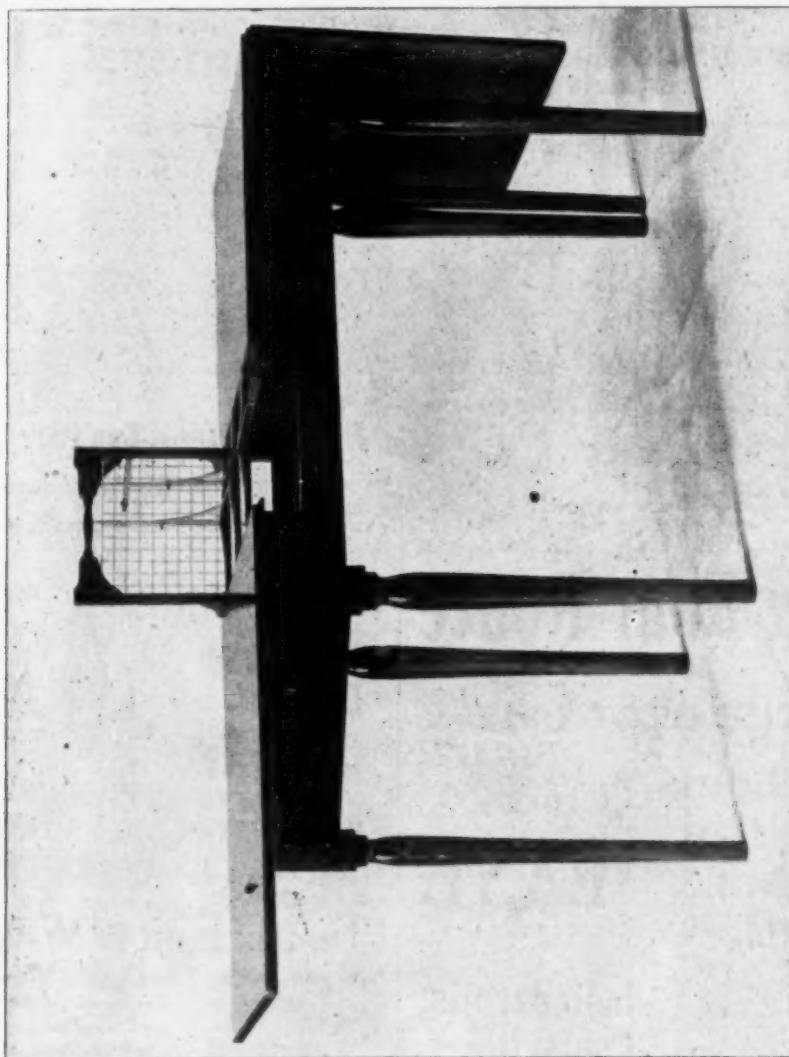
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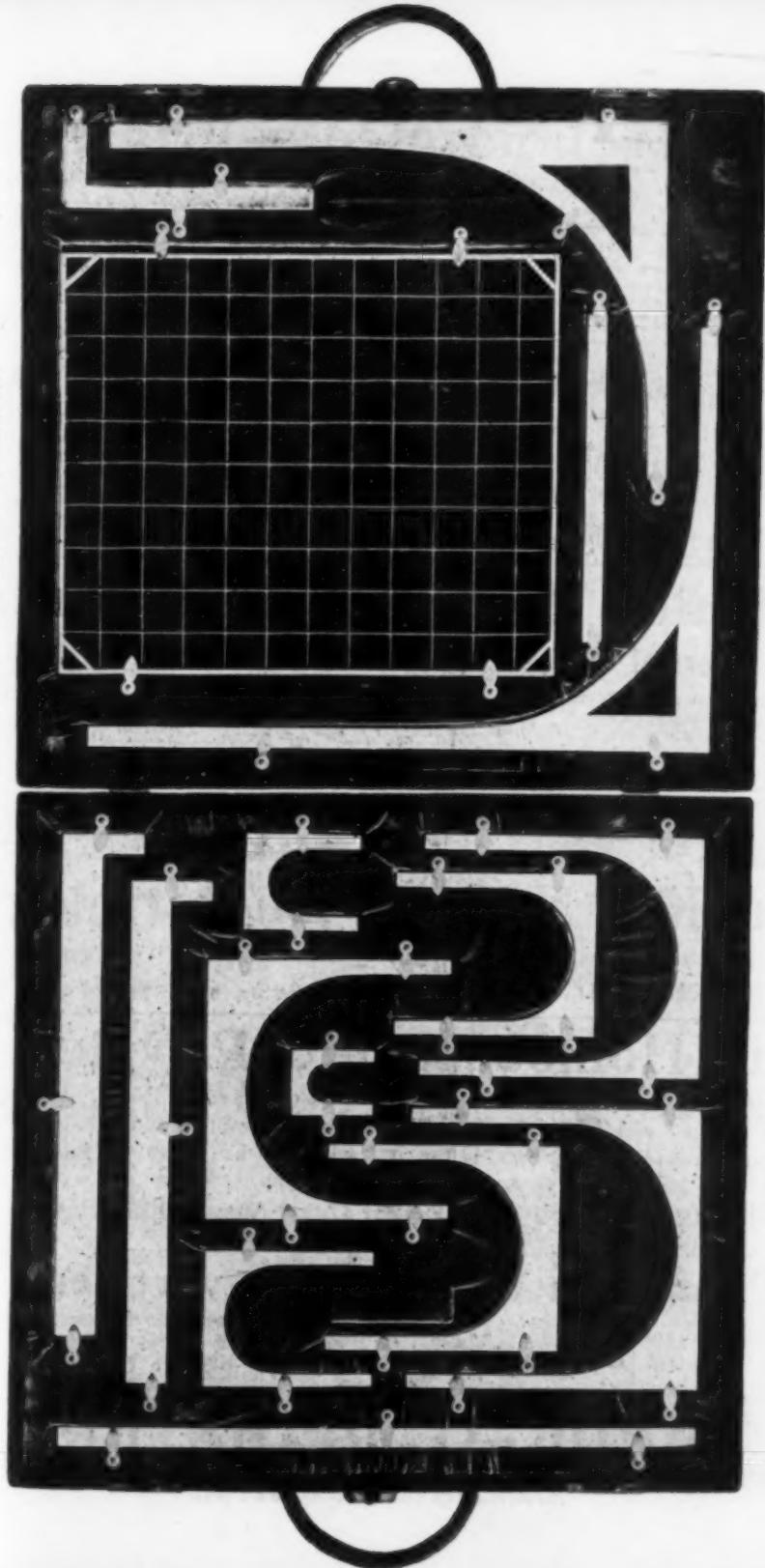
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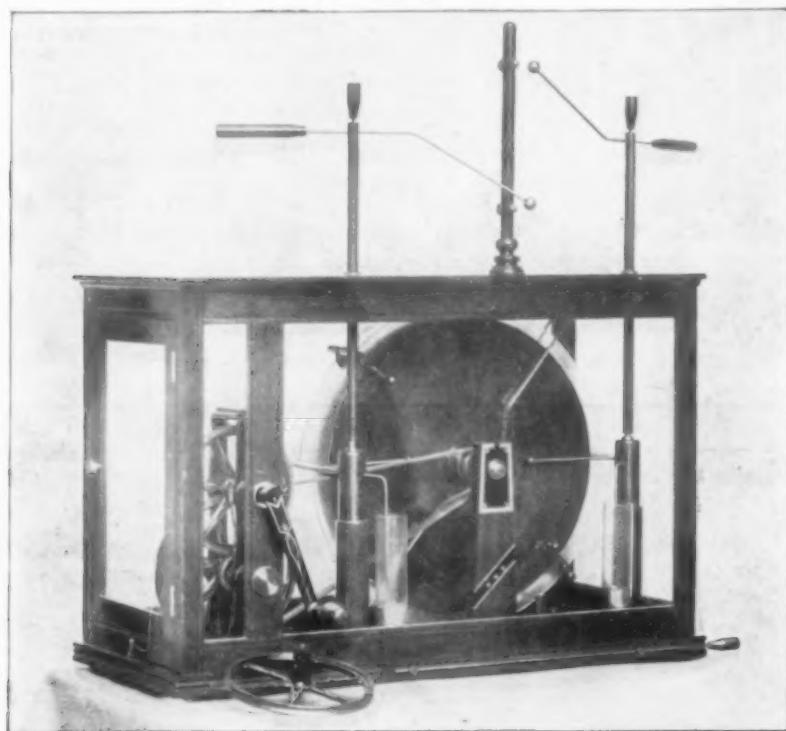
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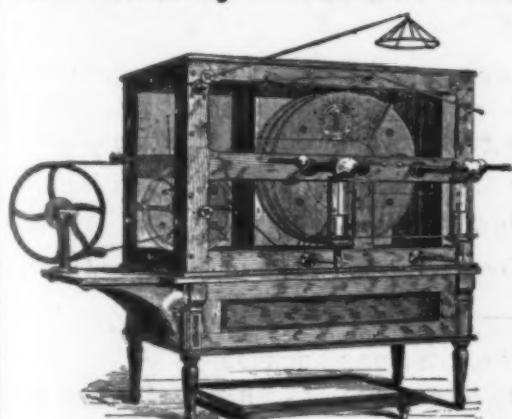
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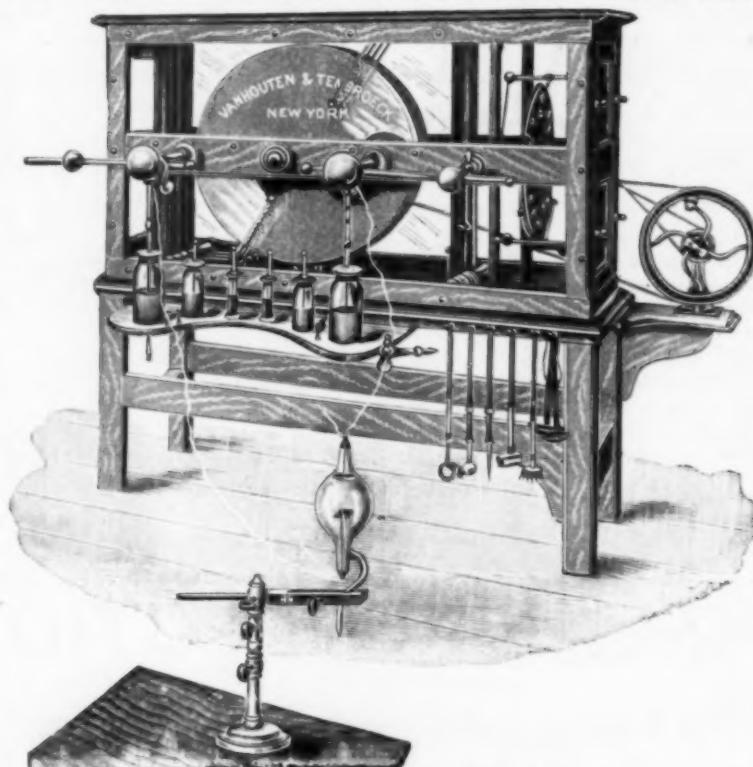
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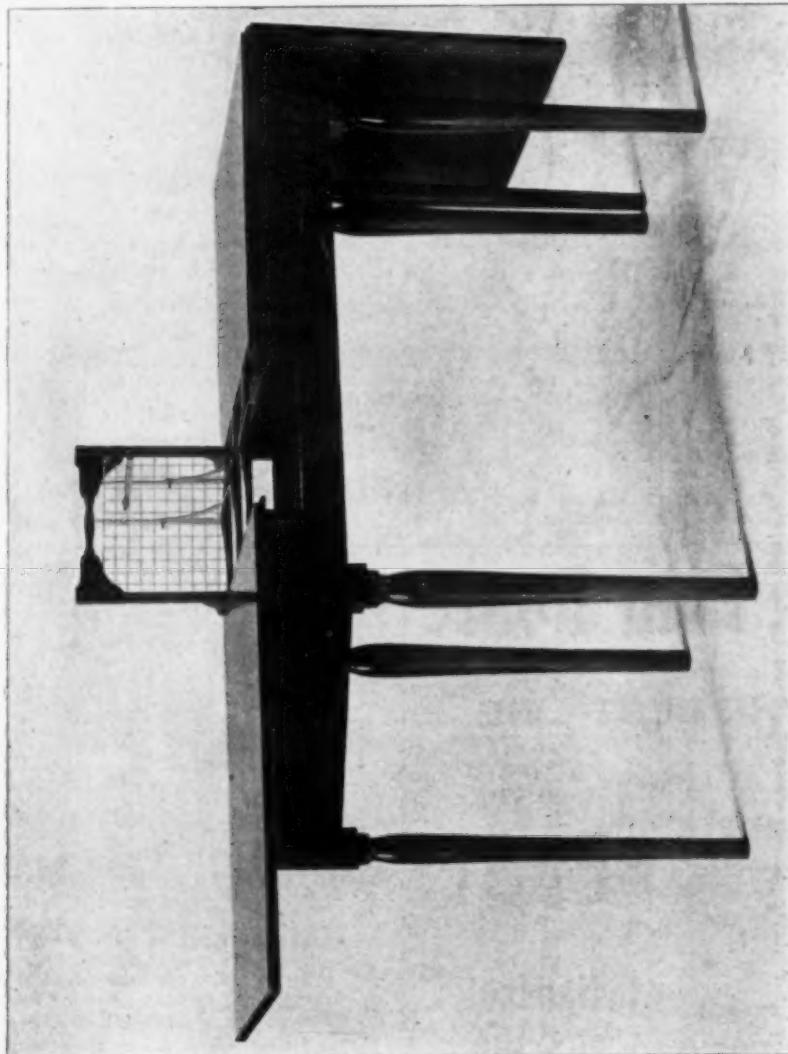
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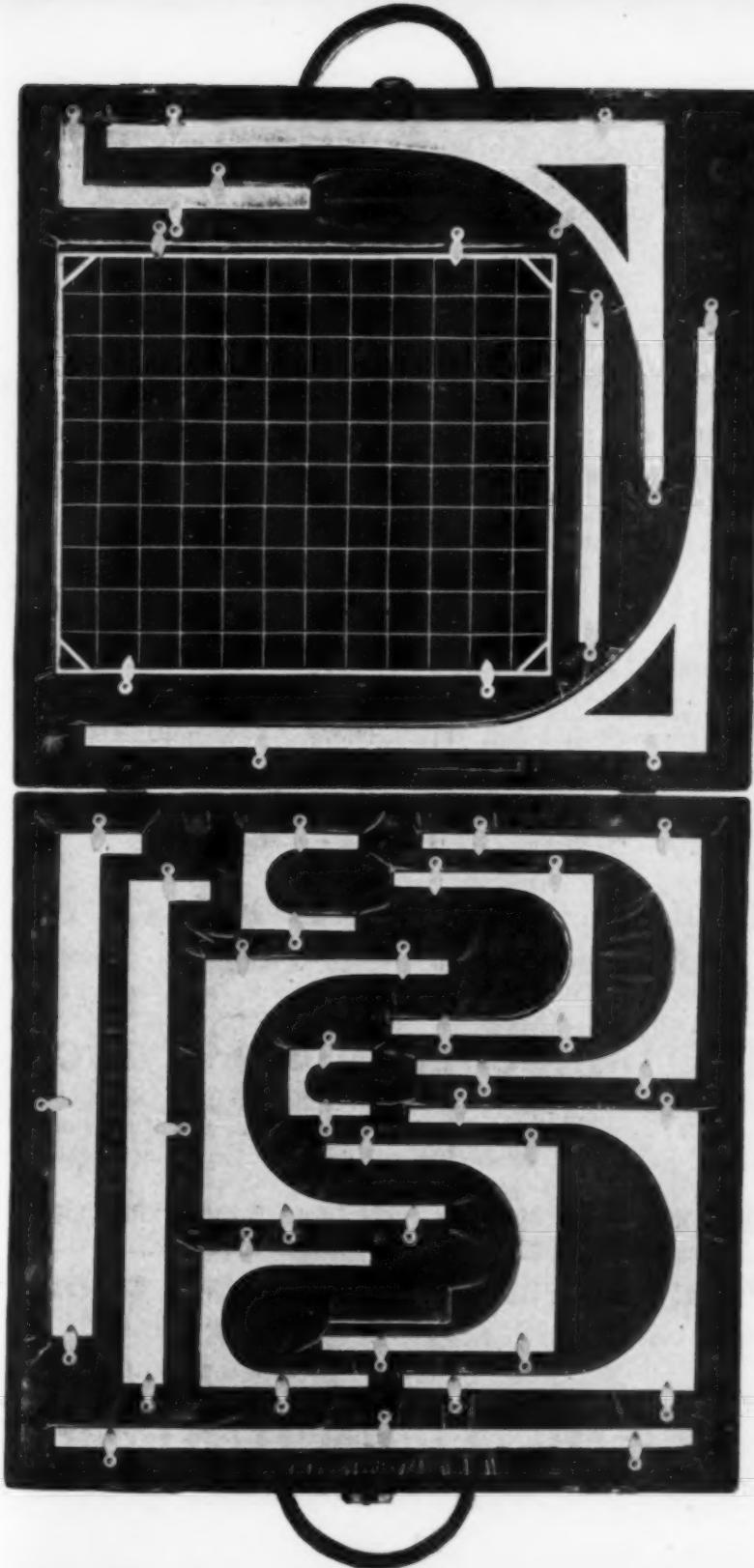
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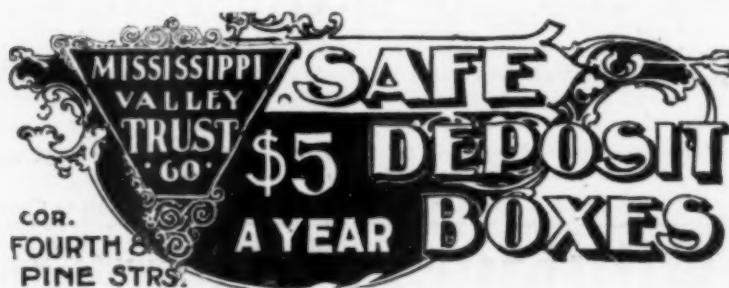
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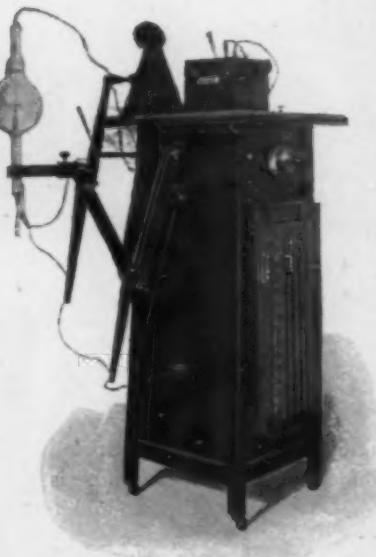
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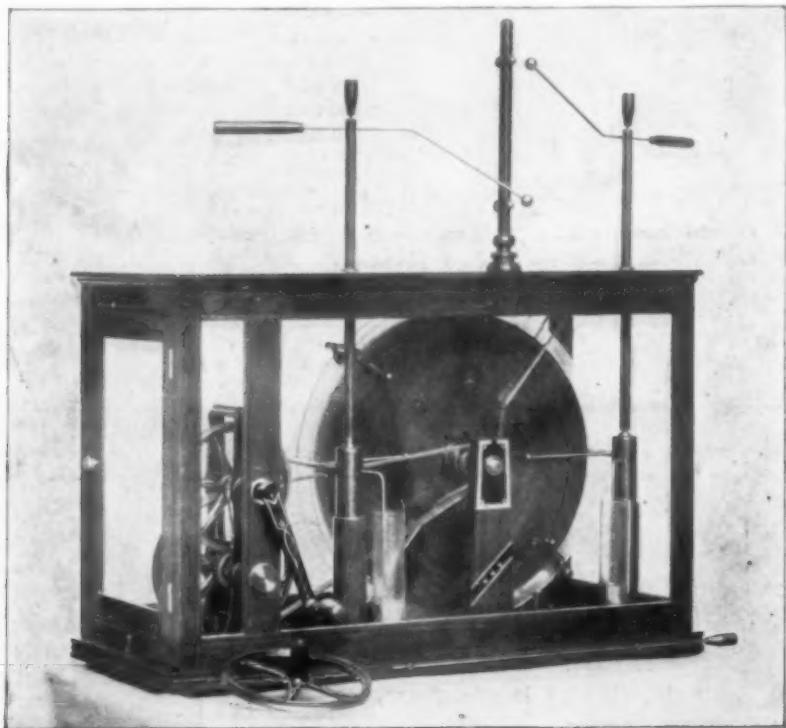
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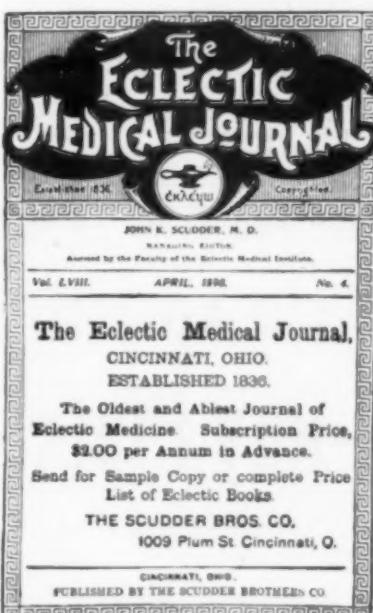
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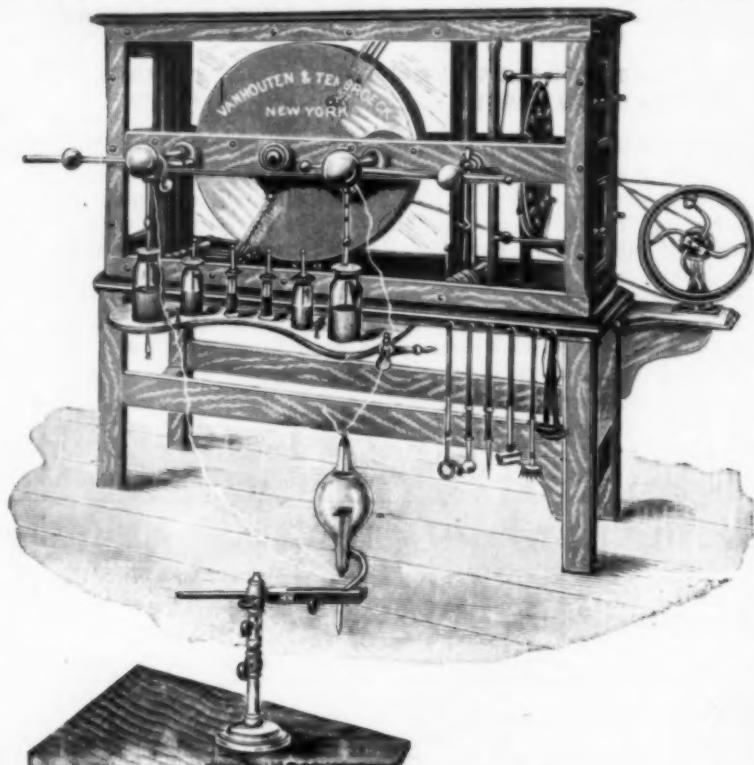
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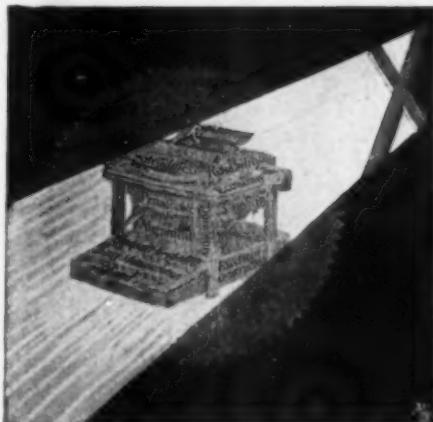
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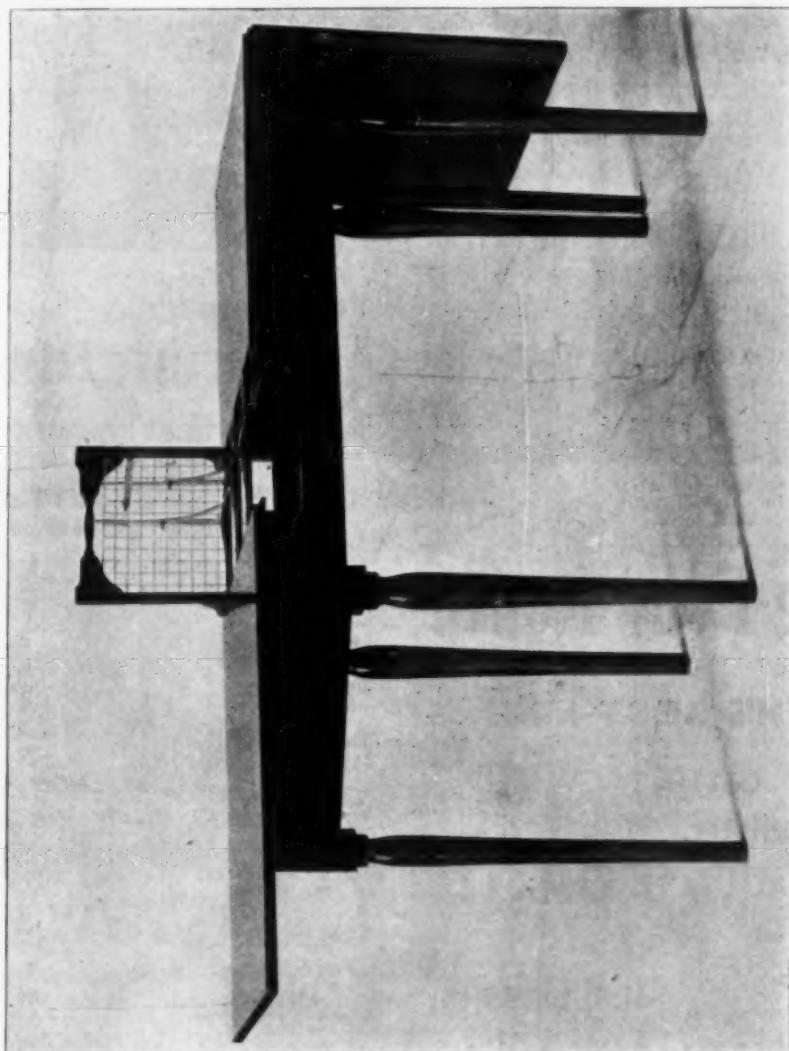
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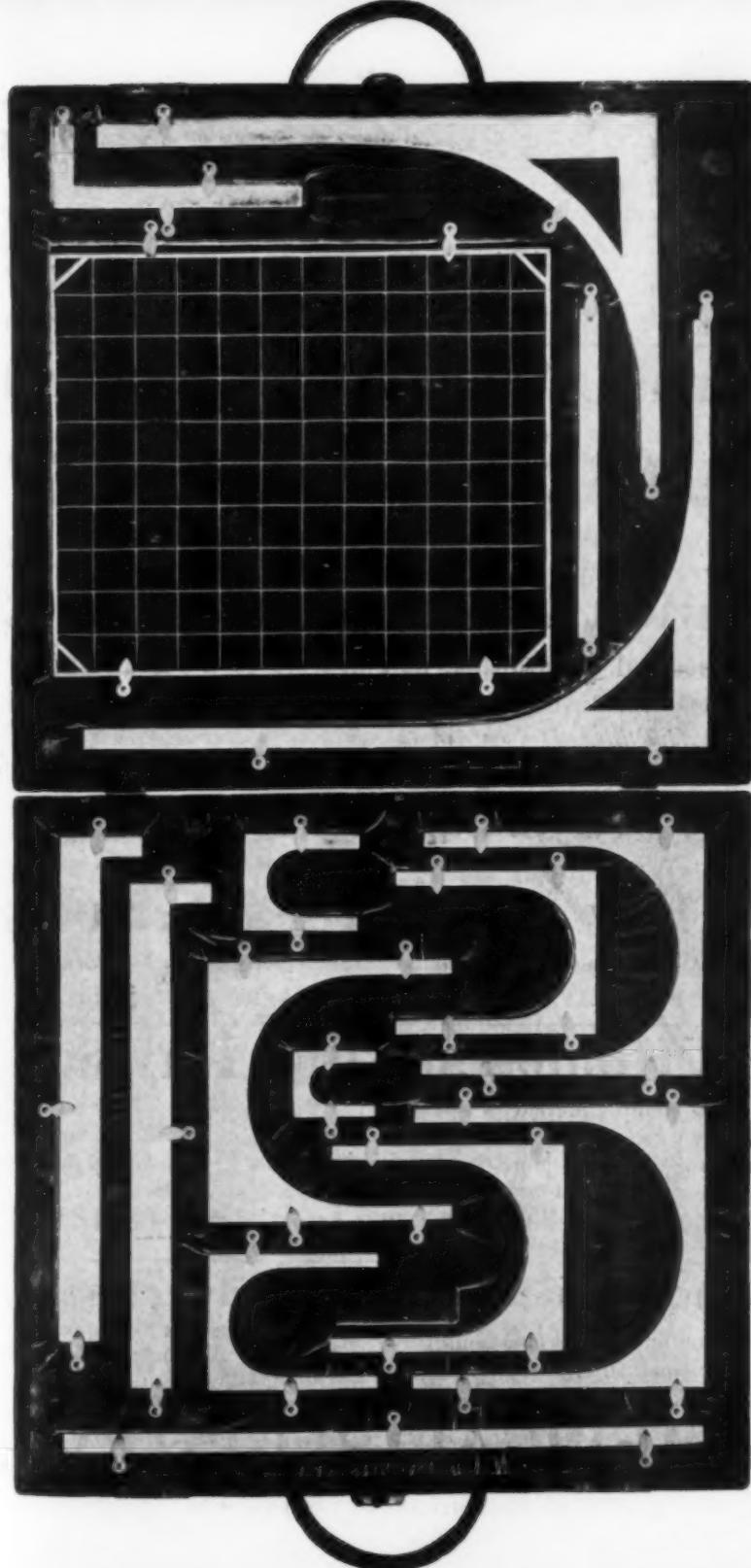
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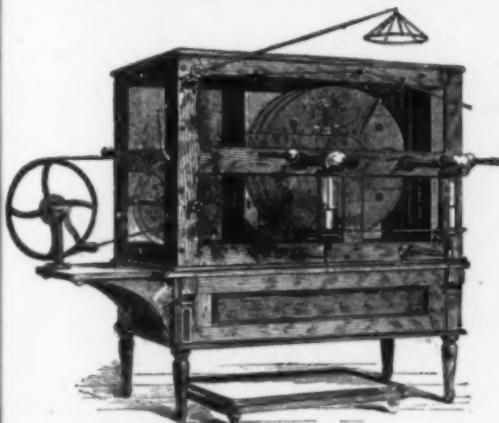
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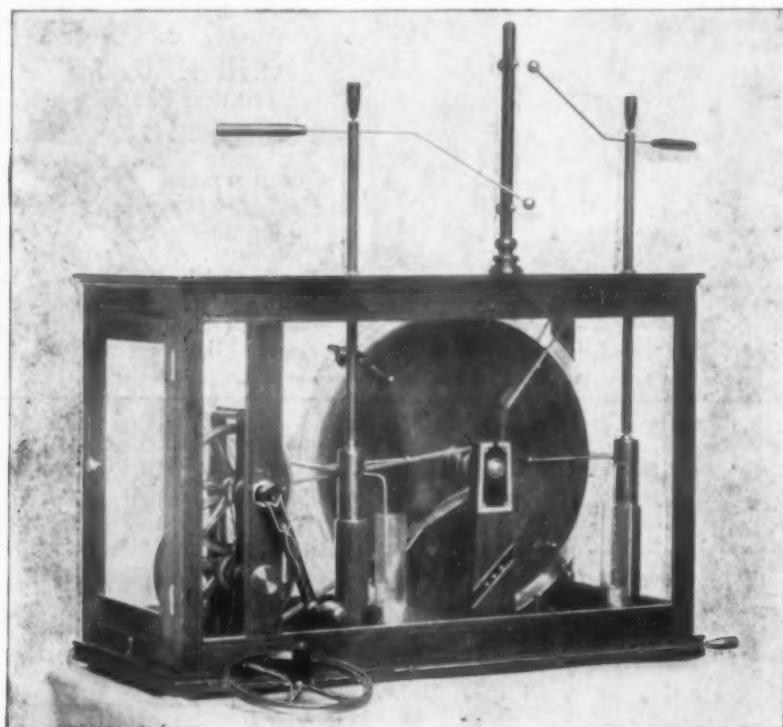
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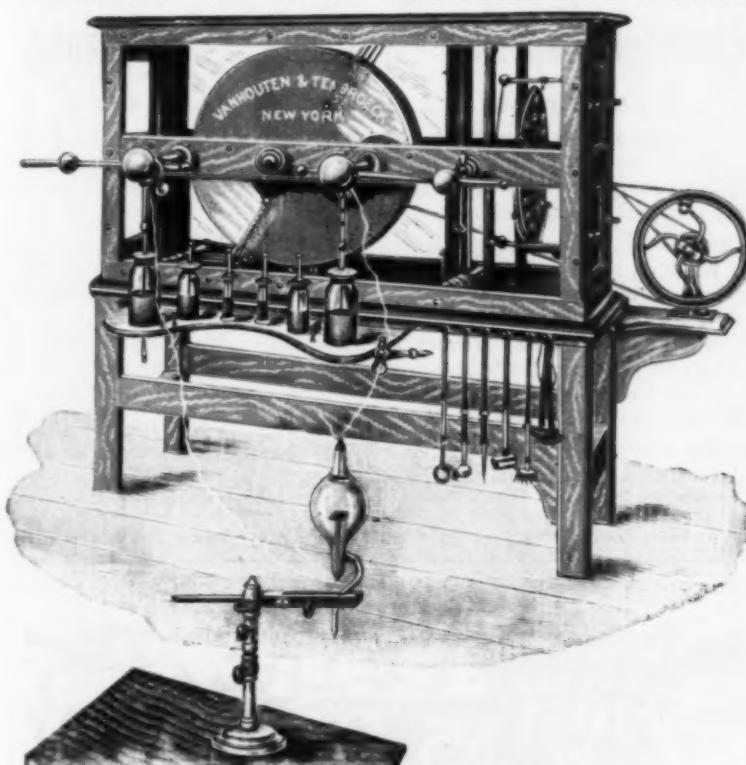
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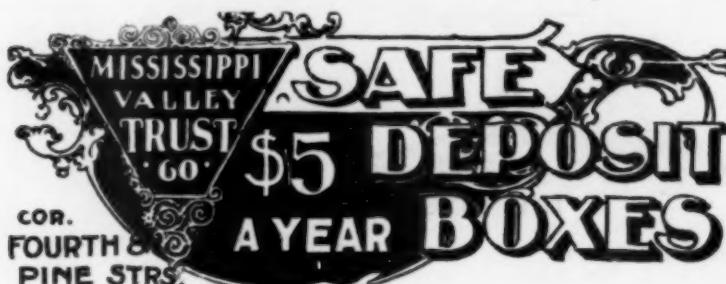
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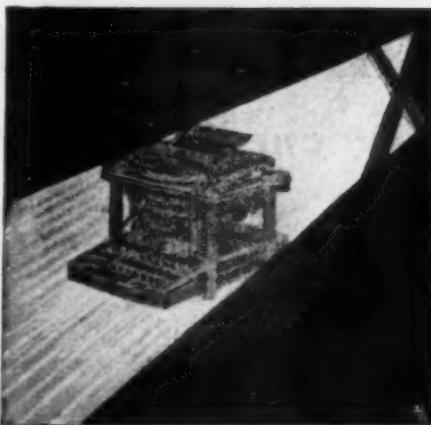
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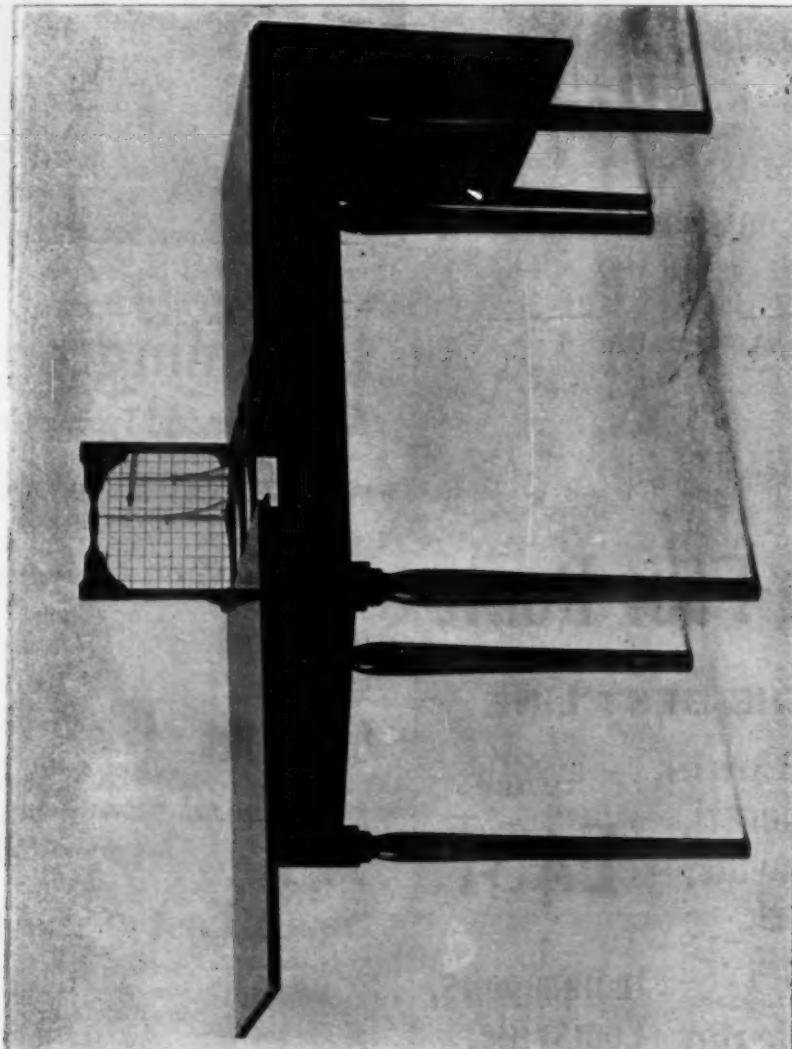
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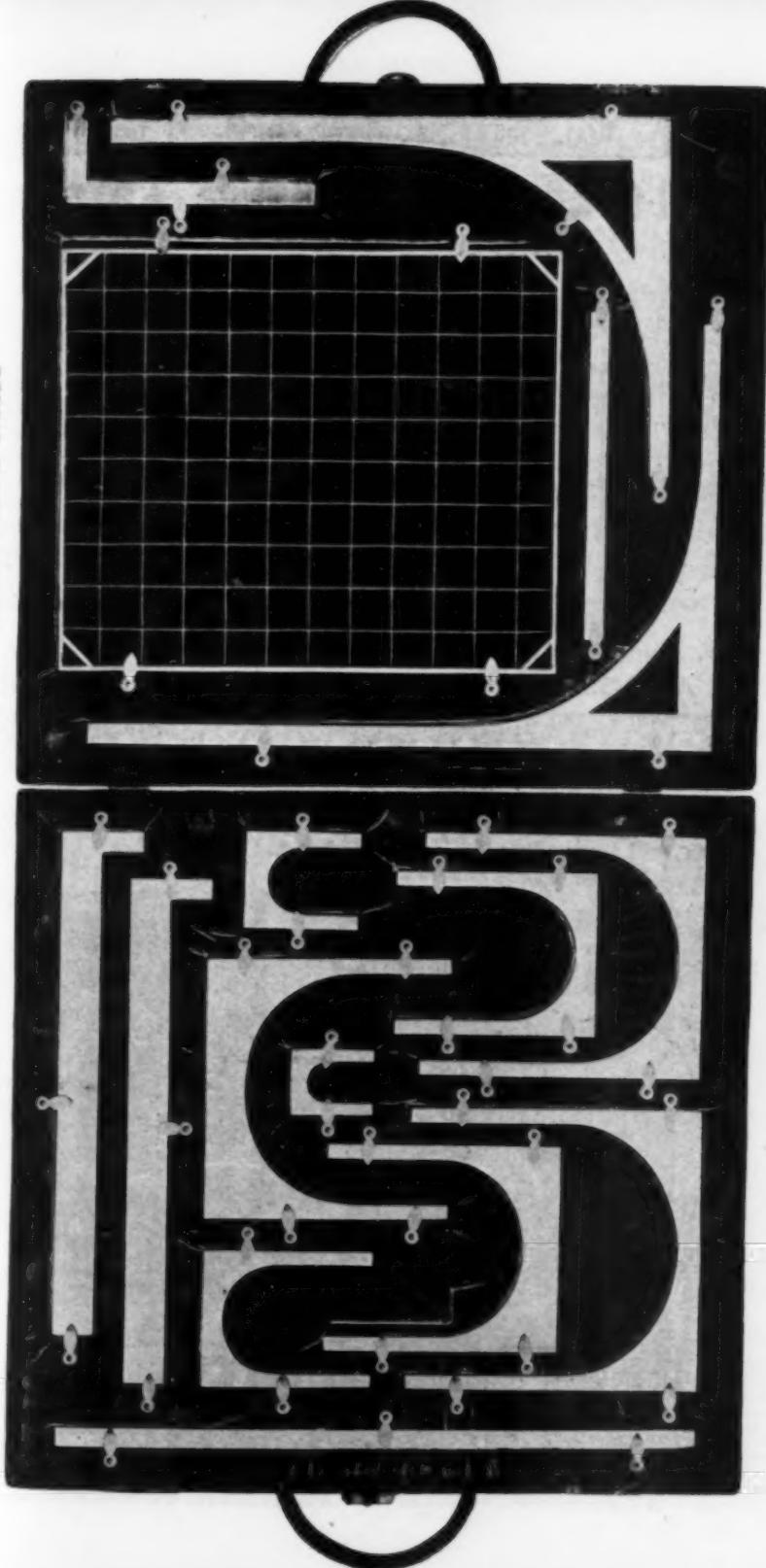
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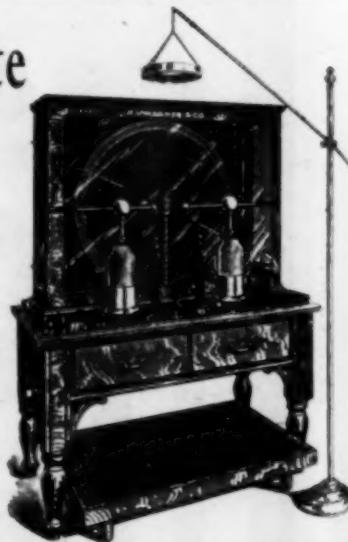
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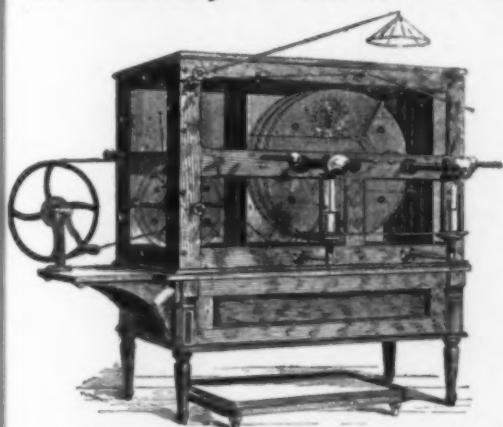
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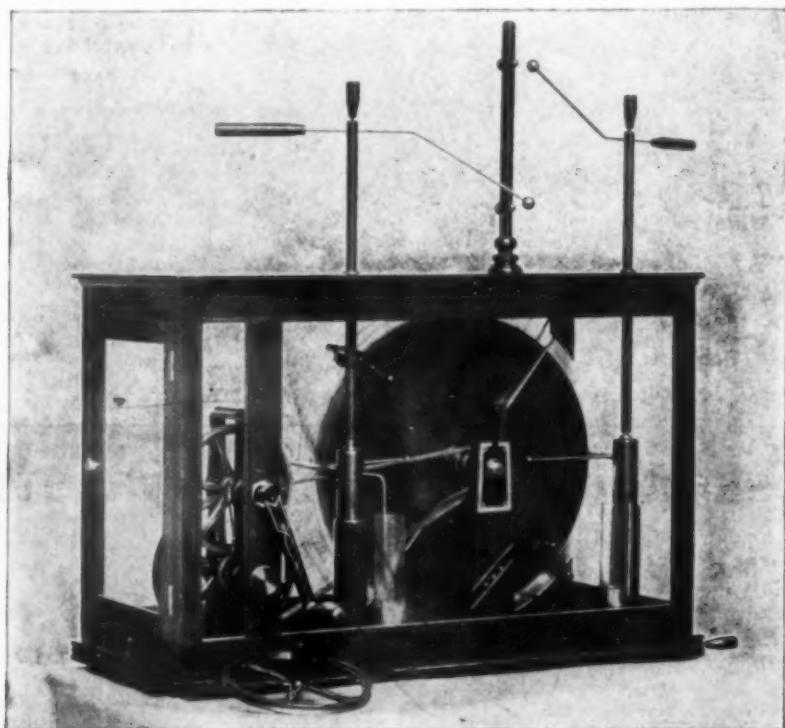
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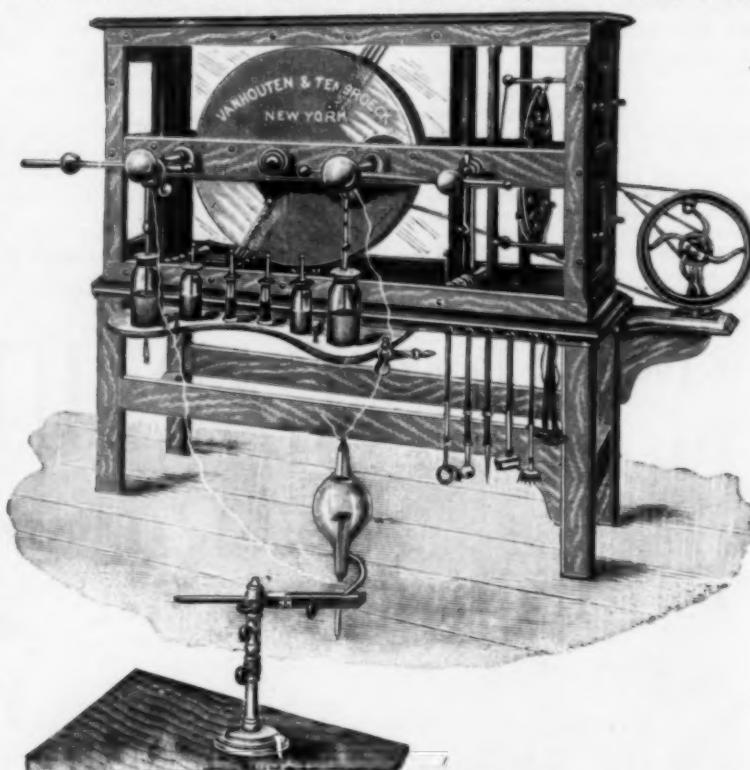
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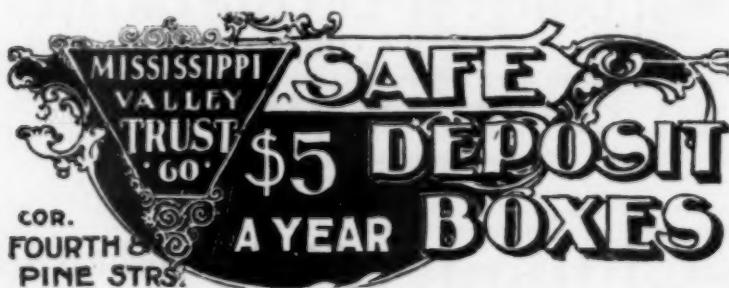
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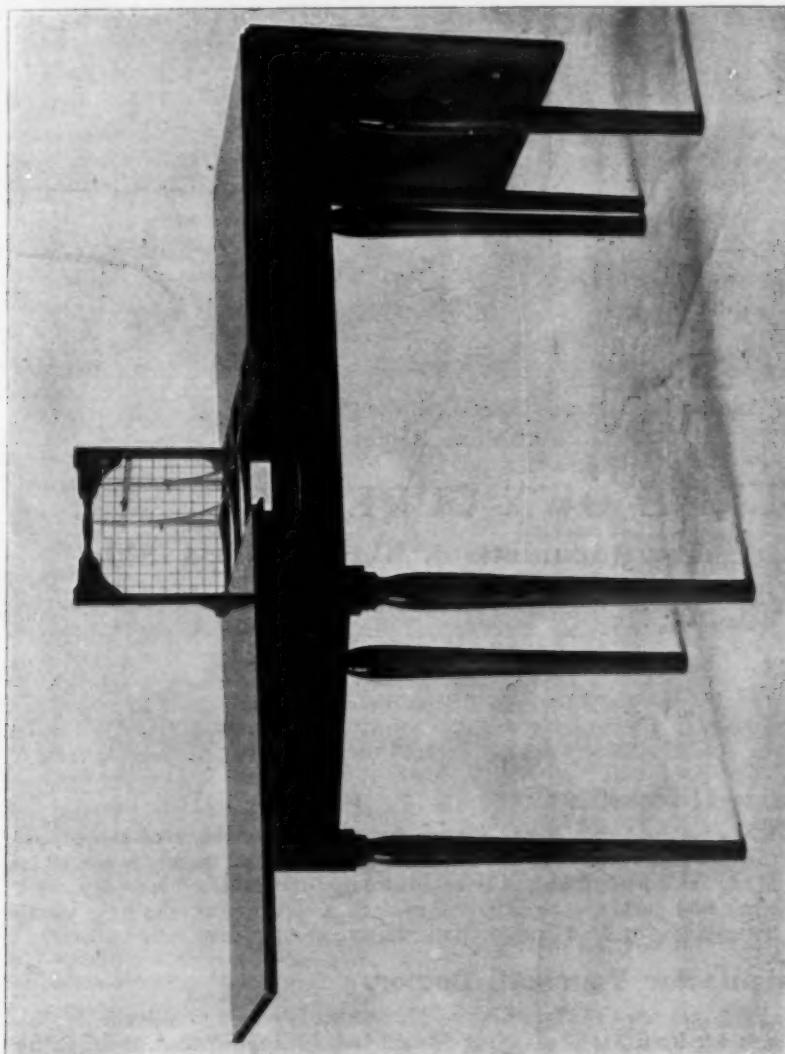
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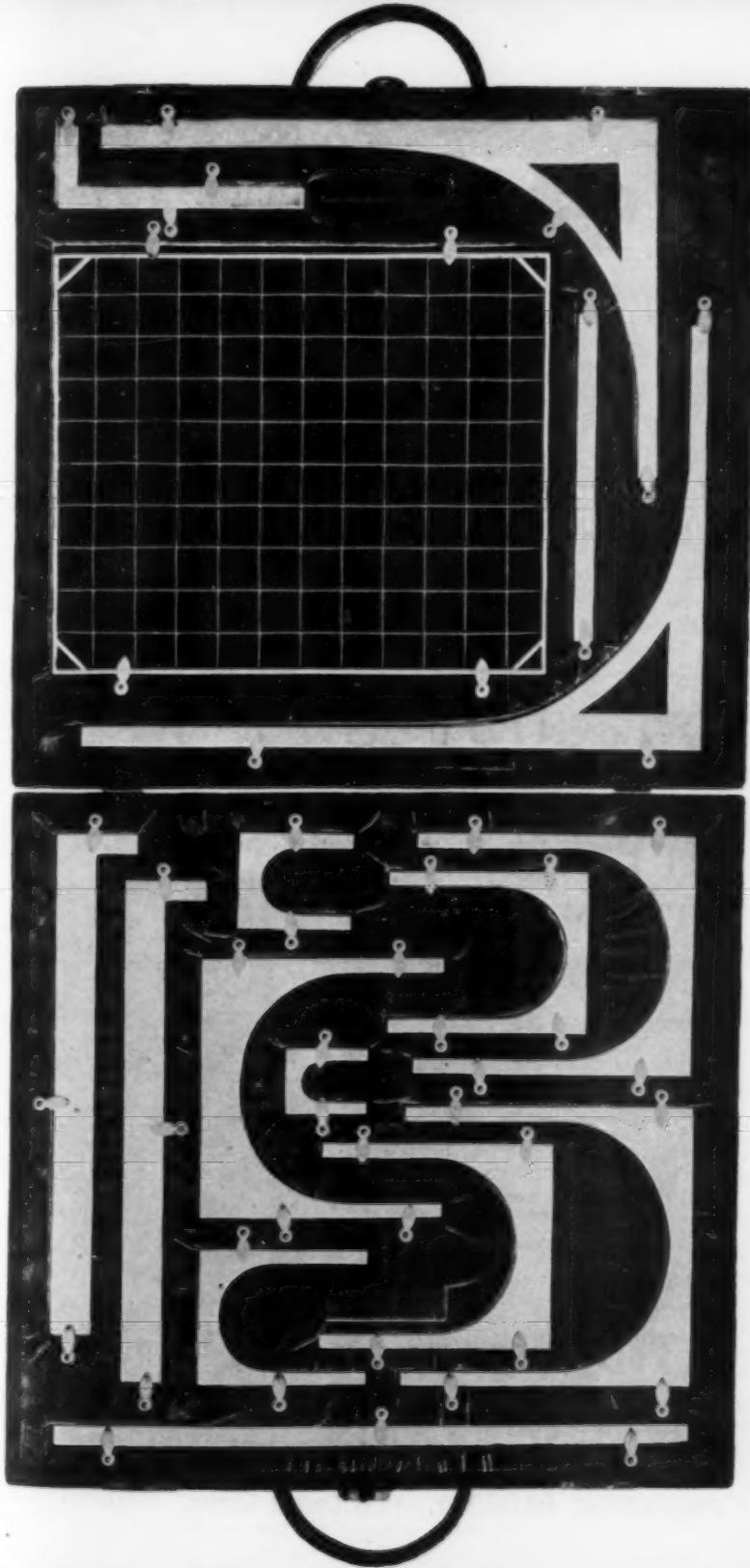
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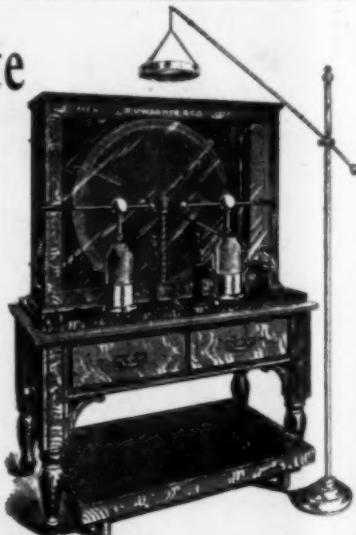
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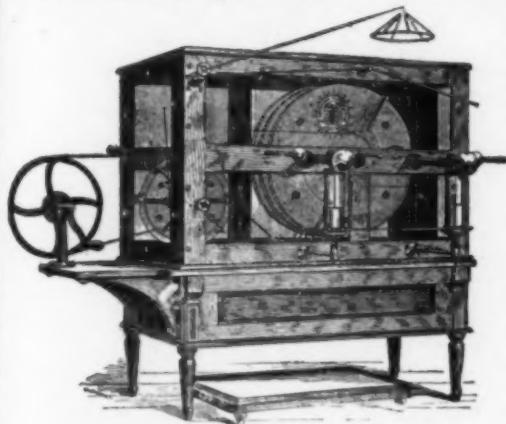
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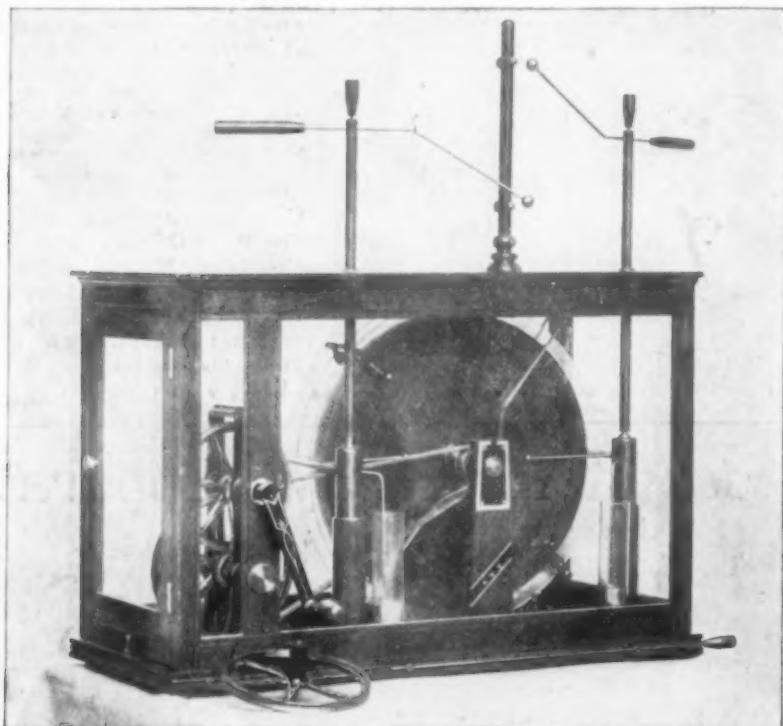
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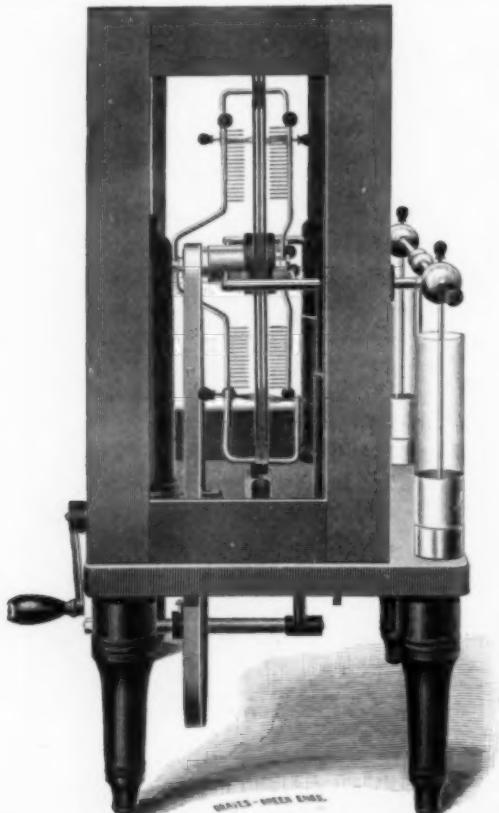
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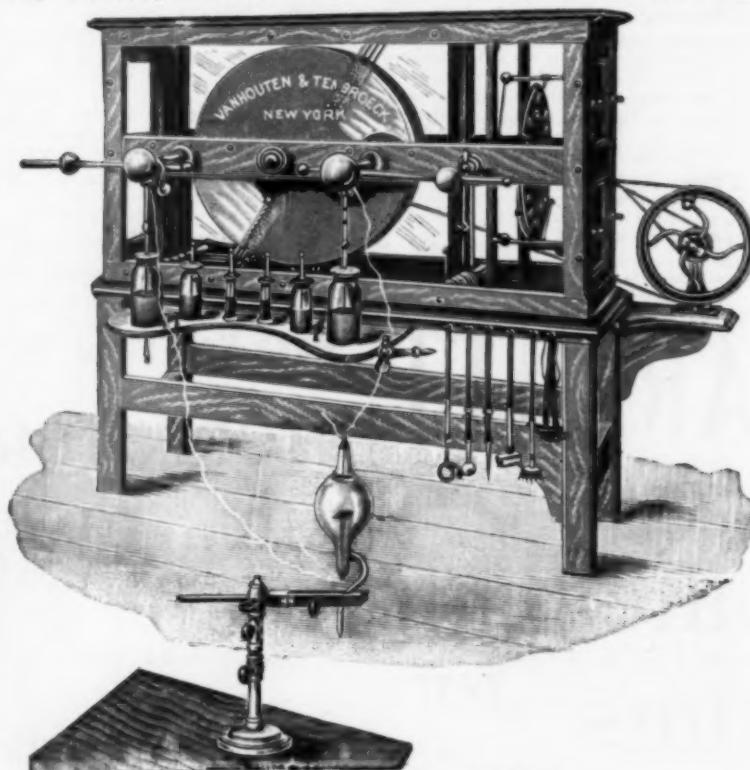
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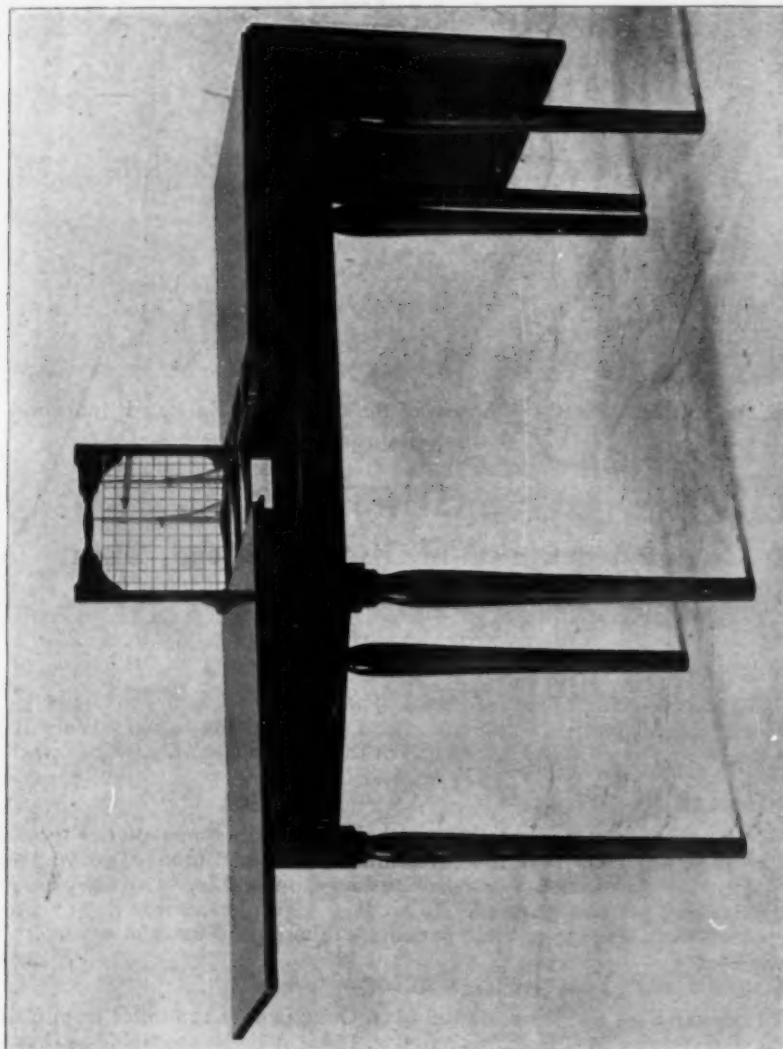
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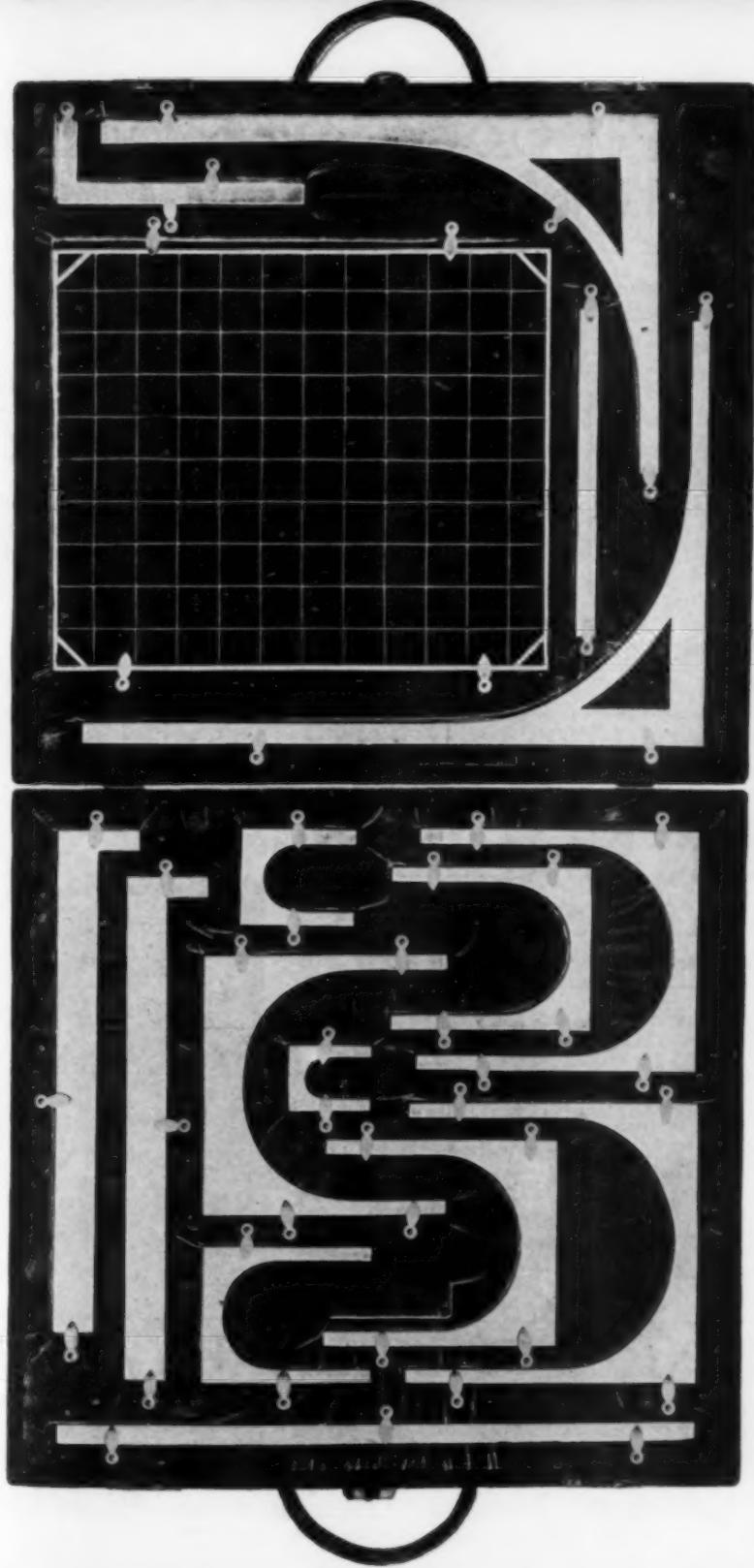
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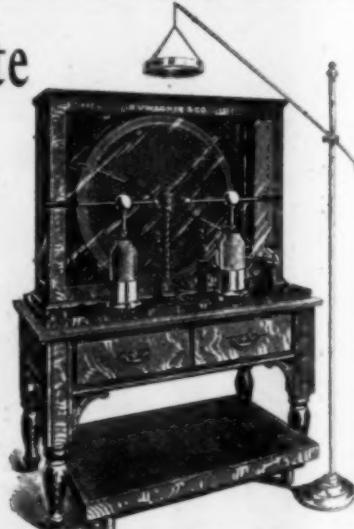
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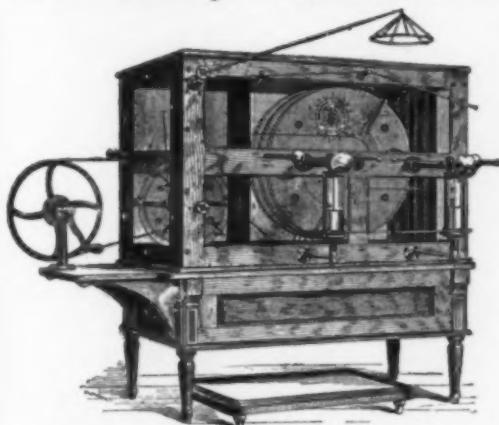
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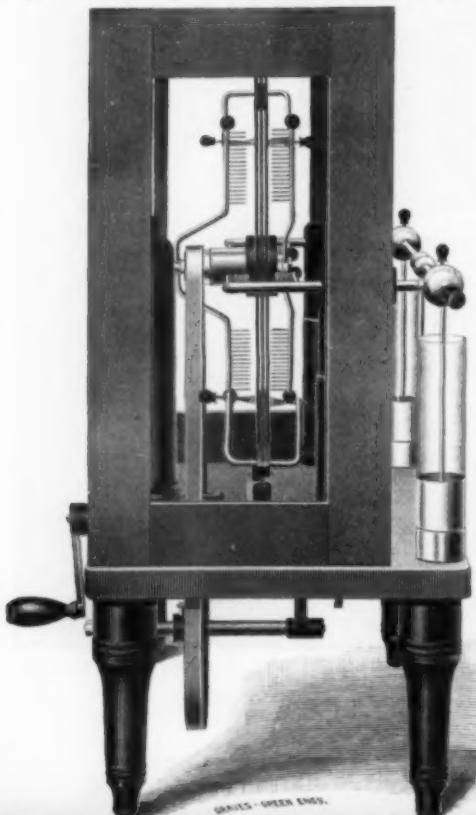
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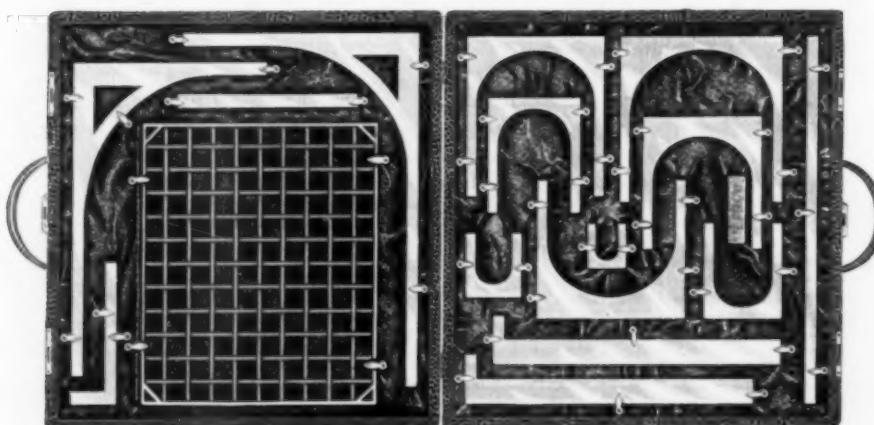
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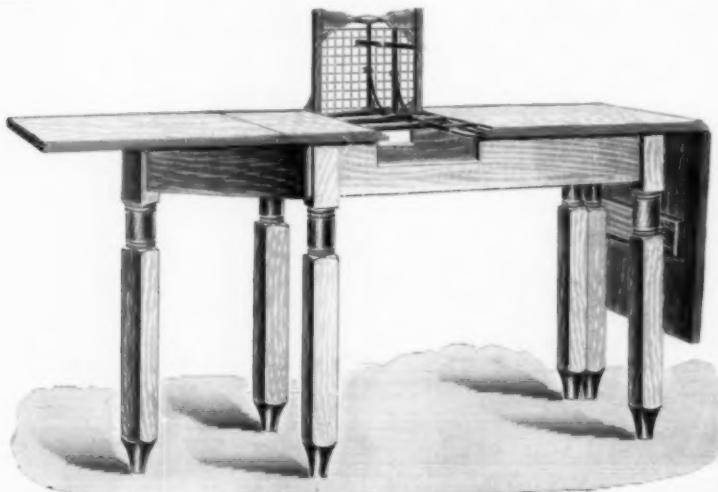
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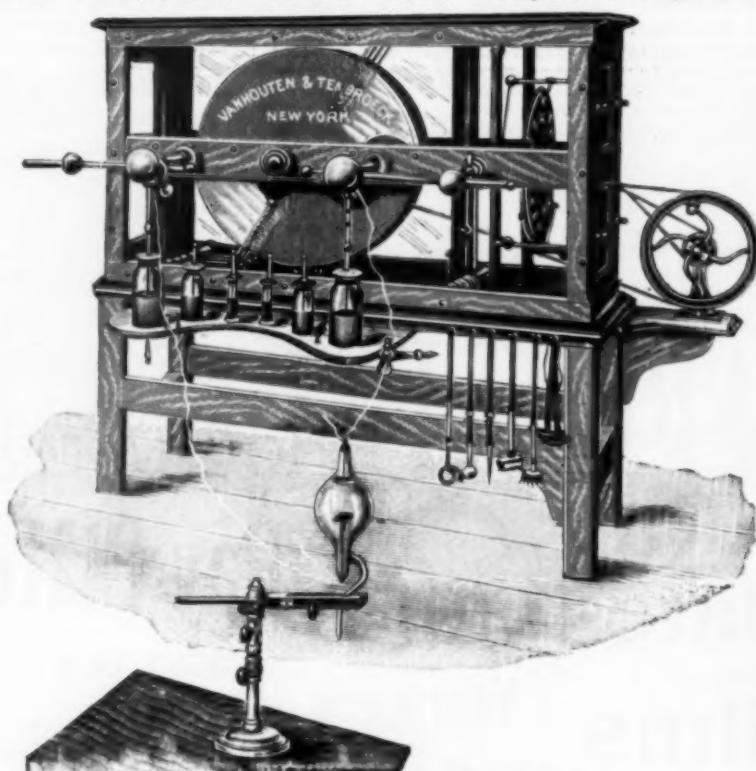
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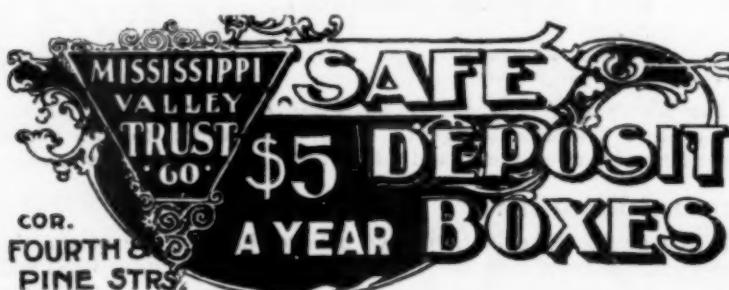
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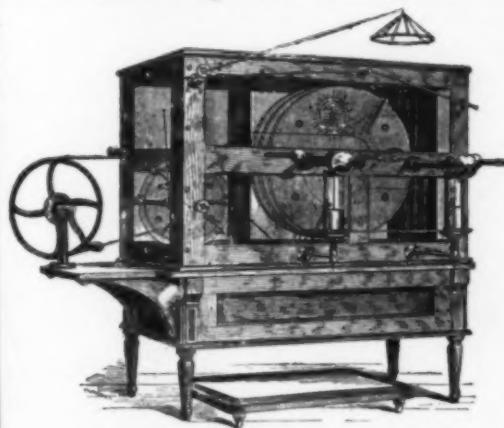
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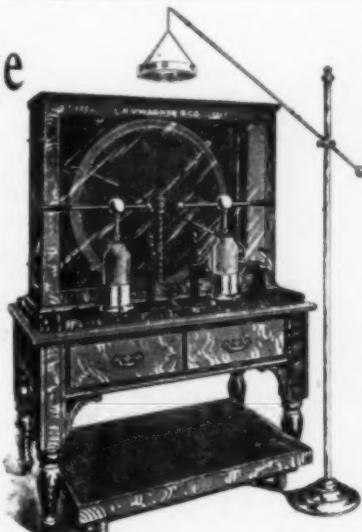
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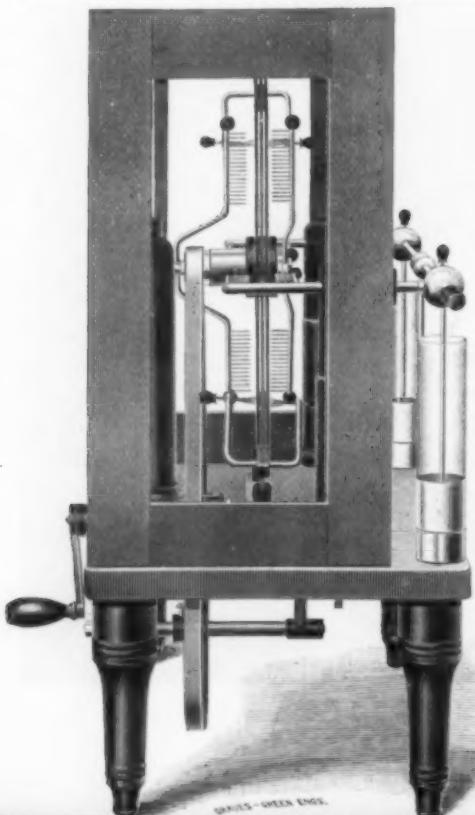
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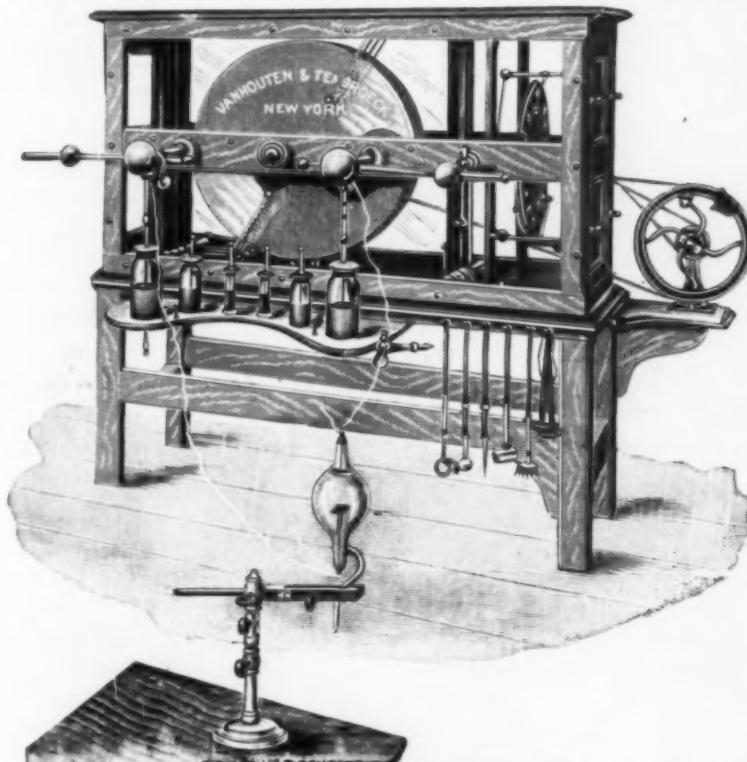
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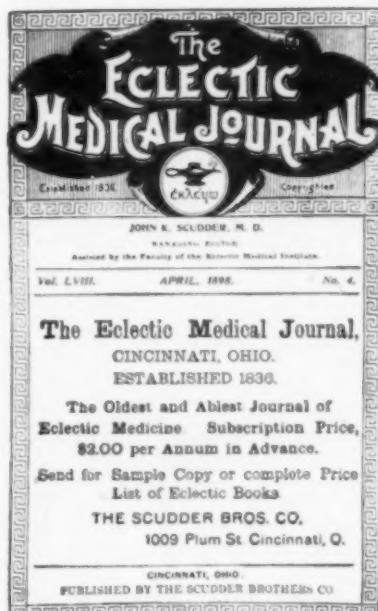
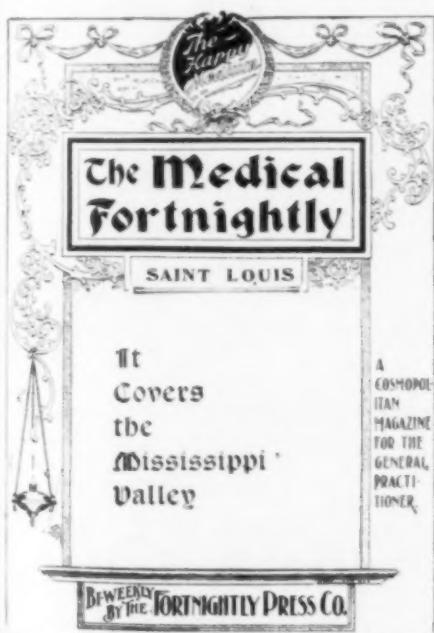
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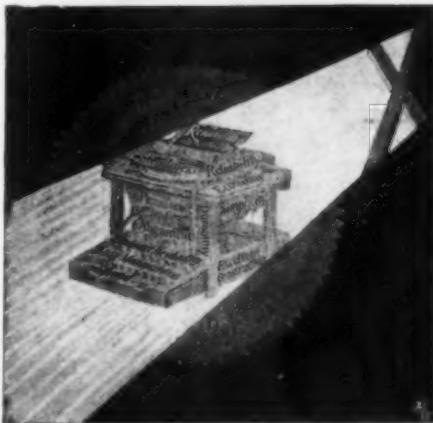
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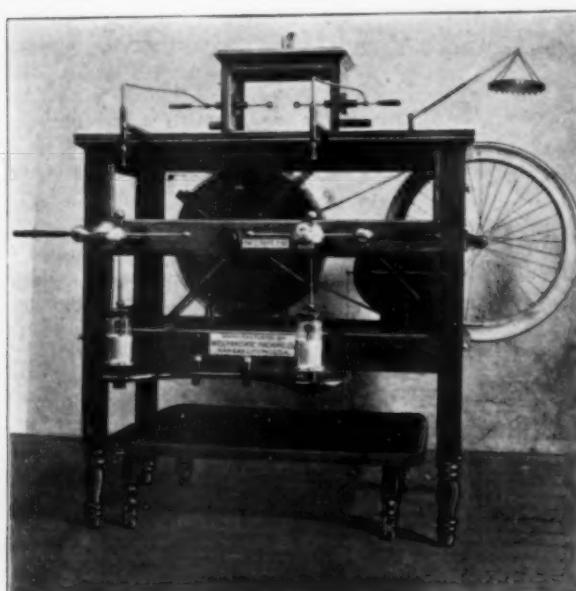
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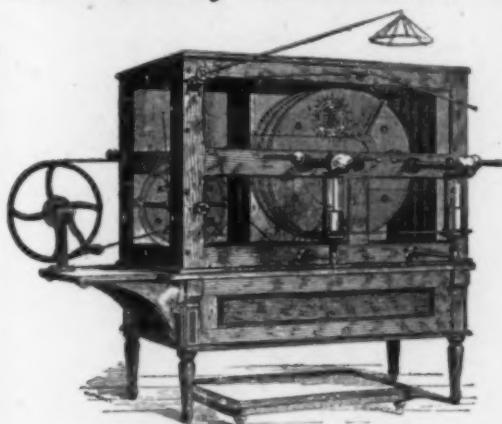
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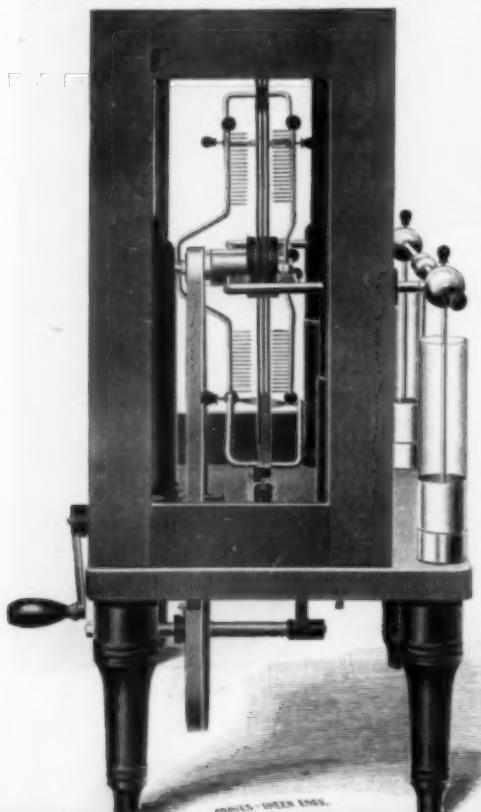
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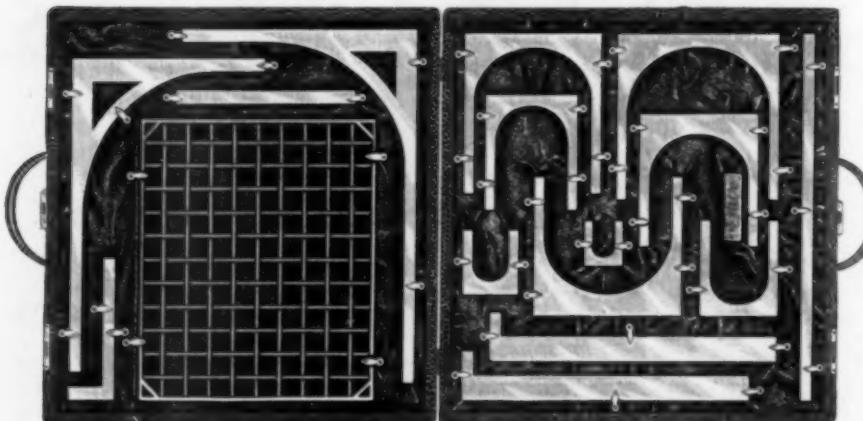
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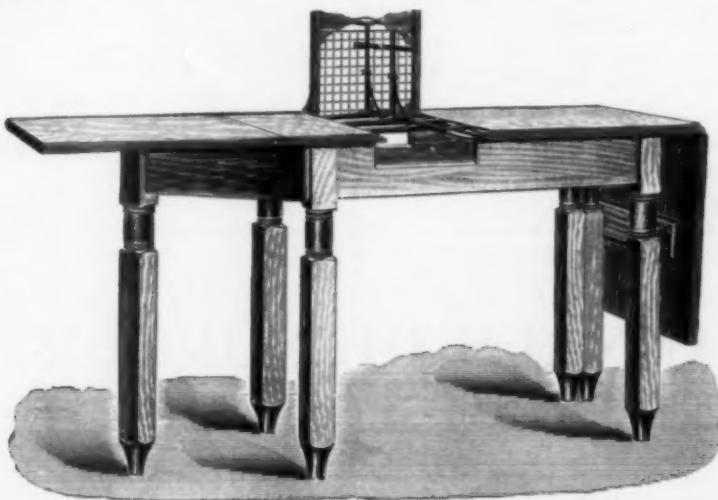
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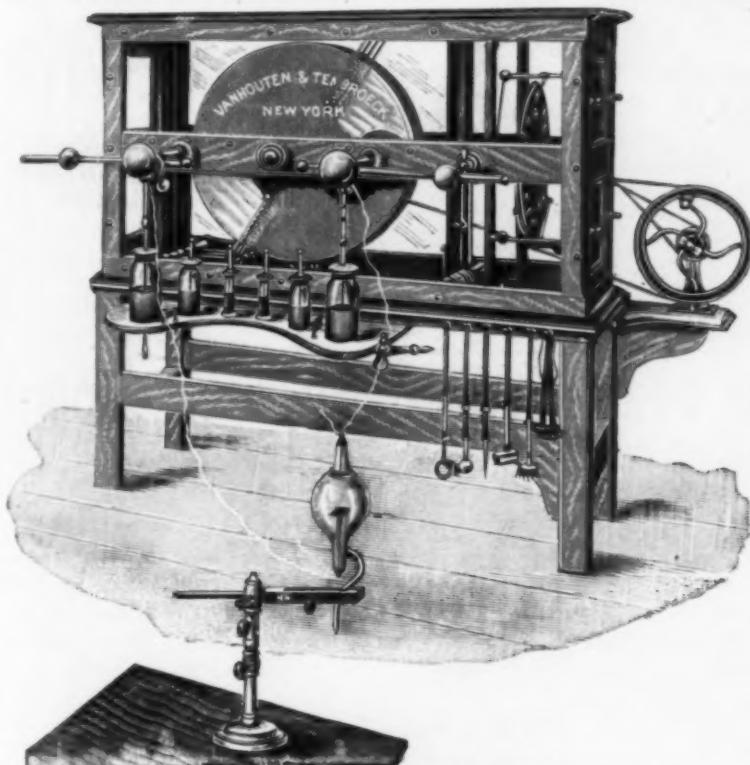
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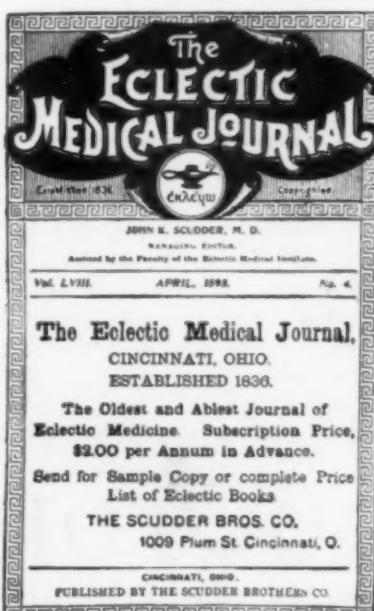
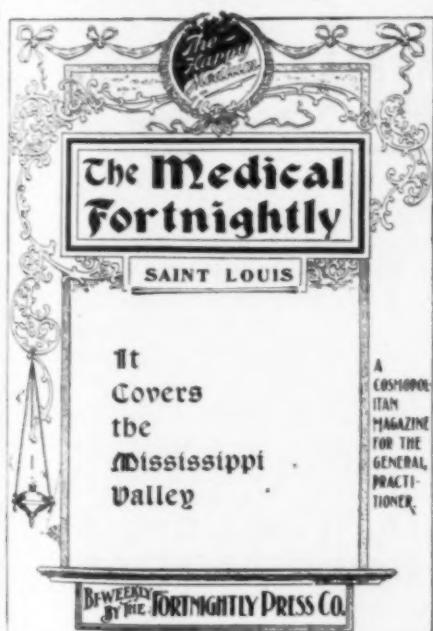
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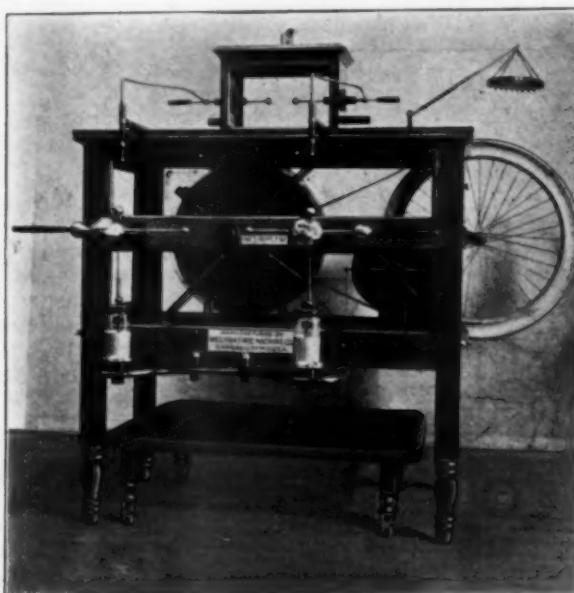
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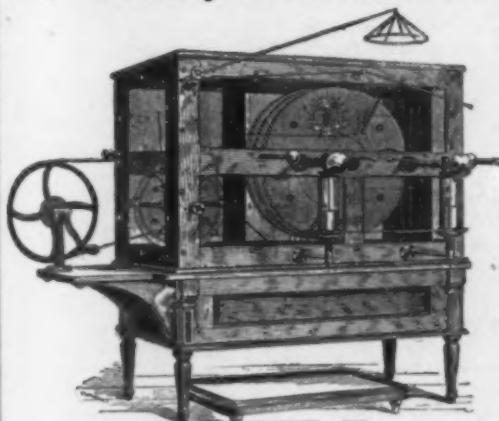
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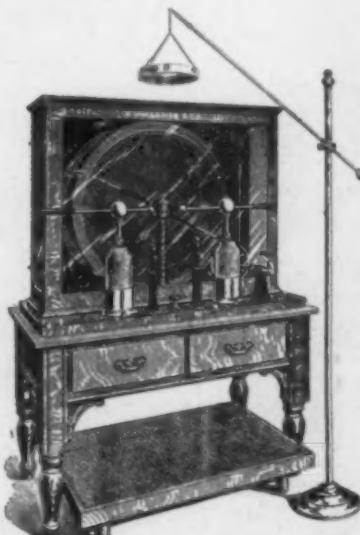
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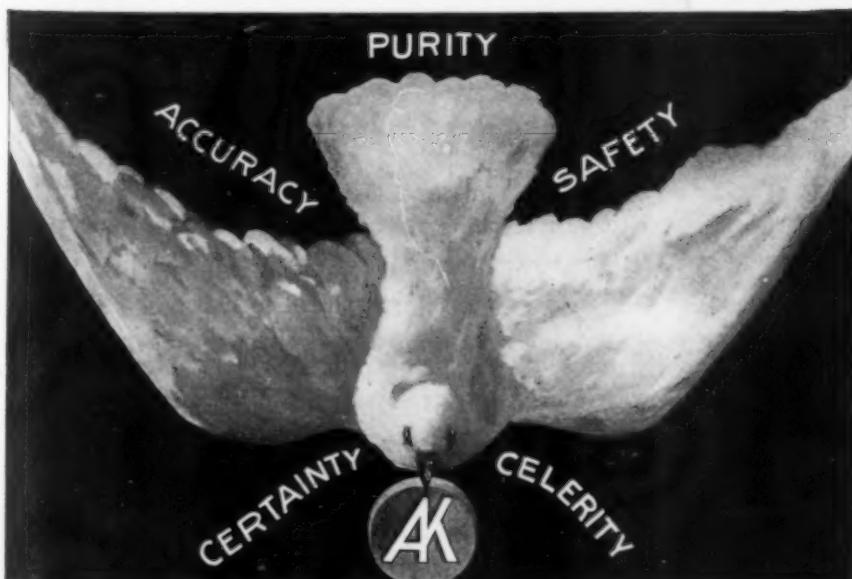
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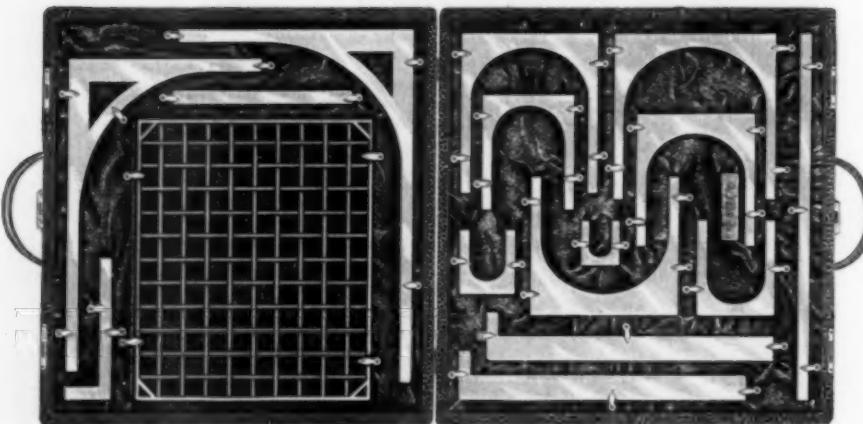
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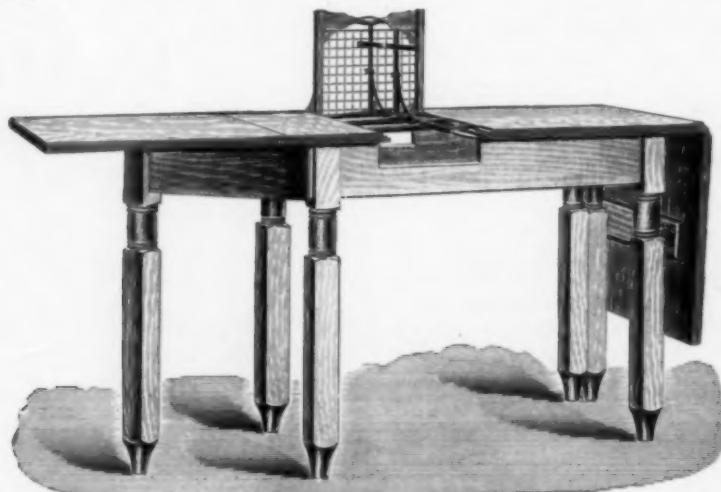
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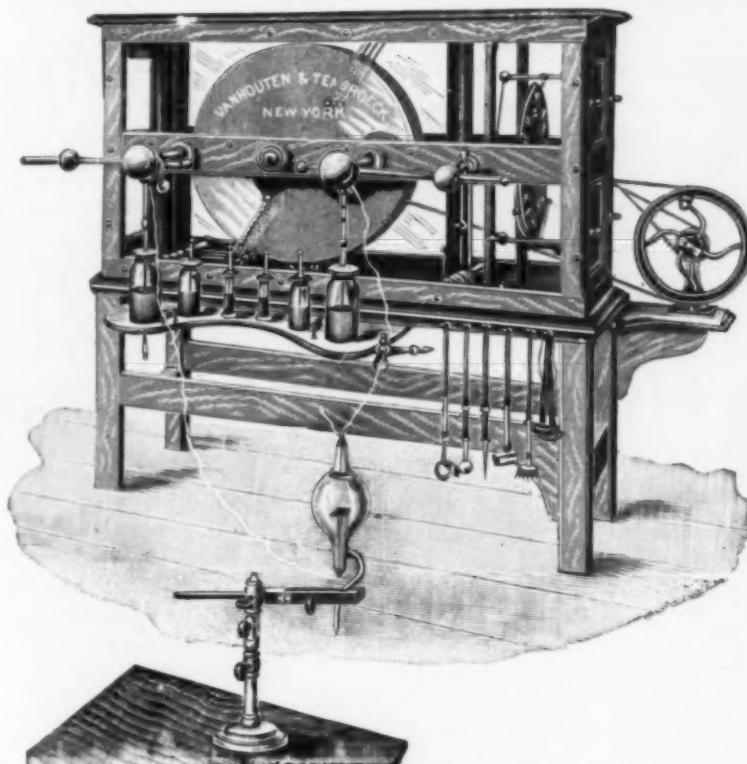
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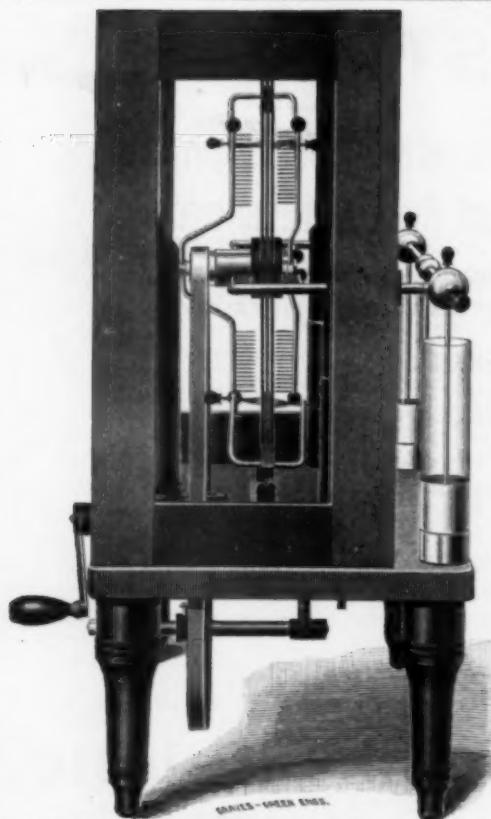
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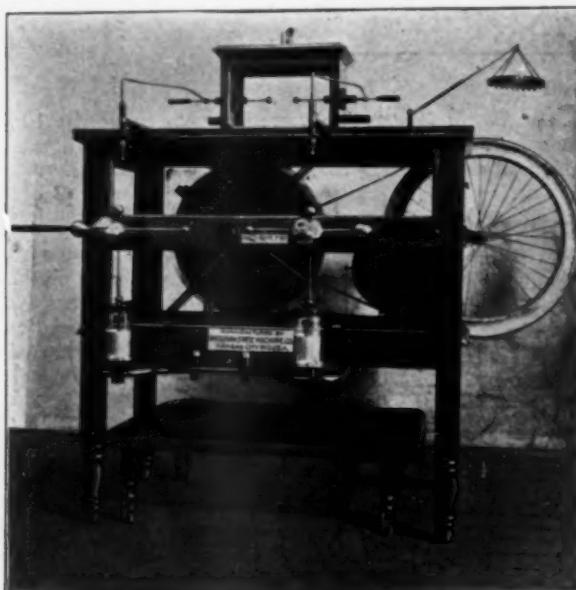
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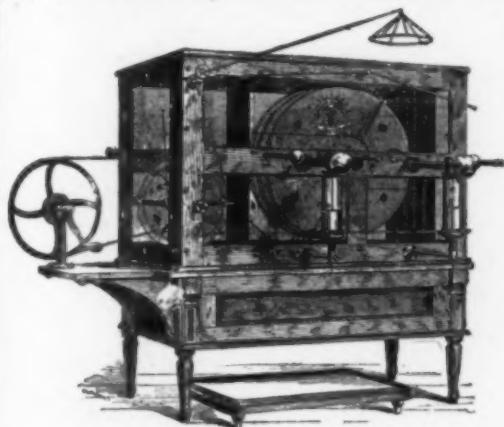
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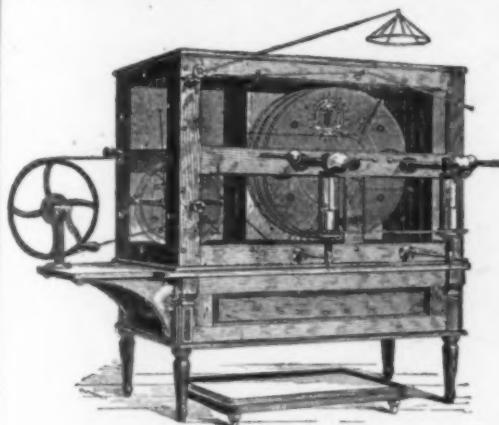
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